THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

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J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

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Farming Operations made Profitable.

In the COUNTRY GENTLEMAN of the 16th inst. we presented a summary of several excellent articles under the foregoing title, contributed for the New-England Farmer by Hon. FRED. HOLBROOK; the third and last of the series has since appeared, and as we have scarcely the space to copy it at length, we will endeavor to give our readers the benefit of its most important points.

VII. Making a Productive Pasture.

The question being to convert 30 or 40 acres, somewhat uneven, but sufficiently level for plowing, into a good pasture after it has been impoverished by occasional grain crops and over-crowding with stock when not under grain, Mr. H. recommends as follows:—

1. Plow in August, say "about eight inches deep, so as to stir in a portion of the fresh subsoil with the old surface soil. Then sow broadcast 500 lbs. of bone-dust per acre, harrow it in, and seed at once," putting in herd's grass (timothy) and red top, or orchard grass if preferred. Timothy, when fed close, is likely to die out. Red top, when sown, should be put "on separately, and with a much narrower cast," owing to its lightness. Orchard grass is a favorite with Mr. H., and, "the seed being quite bulky, a bushel and a half is none too much to sow with the other grasses, if you would secure a thick fine sward." Or,

2. "After plowing in August, you can, if you please, put on a heavier dressing of bone, say 300 lbs., per acre, and sow winter wheat or rye with the grass seeds—the extra dressing of bone in that case compensating the land for a grain crop taken off. If the season is favorable for winter grain, you can get from twenty to thirty bushels per acre and several dollars' worth of straw, besides decidedly improving the land."

3. In either case, as soon as the ground is sufficiently bare of the old snow, the following spring, and while the surface is filled with little cracks, sow liberally red and white clover seeds.

4. Another mode of improving the land is to plow it nine or ten inches deep, late in the fall, and in spring manure liberally with compost, broadcast, and then plant it with corn or potatoes. If time permits, after harvest in the fall, plow, harrow, and prepare the land all ready for stocking down, and very early in the spring sow on grass seed alone. Or plow in the spring and stock to grass with grain. "It would, of course, be better for the land to omit a grain crop; but if present profits must be considered, then take the crop of grain, and you have still an improved pasture."

5. The following modes are also suggested—either to manure the land one or two years in the hill, as it is called, planting it with potatoes, and then lay it down to grass

in the spring, without grain, sowing 500 pounds of bone dust per acre, and harrowing it in before sowing the grass seed; or, after planting the land a year, to rot the sod, sow 300 pounds of guano per acre, with a thick seeding of clover, to be the next year turned under as a green crop, and the land in August, or the first part of September, seeded down to pasture.

6. "If the land is quite foul with any species of vegetation that it is difficult to kill by simply the smothering process of plowing, then it would be well to plant and cultivate it in hoed crops one year before laying it to permanent pasture. But as a general thing nicely executed plowing will pretty much kill out the old vegetation. Thorough plowing should be the rule, and if a baulk perchance is made, the team should be at once backed into it and the defective furrow mended. Nothing at all can be gained by the 'cut and cover' style of plowing."

All these various modes of improving old pastures necessitate the investment of some capital, but Mr. H. justly adds that "such investment is indispensable if you would have good land, and *is usually more profitable than the purchase of more land to meet the requirements of the stock you wish to keep.*"

VIII. The Use of Guano.

"Guano stimulates land in some cases wonderfully for one or two years after its application, but it does not seem to add staple to the soil, nor to be sufficiently permanent in its influence to be relied on as a sole fertilizer. It may, however, be used beneficially for some special purposes. For instance, on a loose, dry, sandy or gravelly soil, loth to take grass well, even though well manured for a previous crop, or on other land which for any reason is shy and uncertain in this regard, a superb catch of grass may generally be obtained by sowing 200 to 300 pounds of guano per acre, and harrowing it in with grain sowed at the time of stocking to grass. The crop of grain and of straw may also be considerably increased thereby. I have thought in my own practice that such application of guano paid as well as any other of like cost that could have been made. I have already stated that guano may in some cases be profitably applied to stimulate poor land to throw up a bulky green crop, to be turned back into the soil. Instances might be named where its application for this purpose has been attended with satisfactory results."

IX. Draining a Wet Meadow.

Surface water can often be drained away where there is no perceptible descent to the eye, and the fact that the drains must sometimes pass through a swell of land higher than the general surface of the meadow, to reach an outlet, should not prevent the undertaking.

1. The eye cannot be trusted. "Take an accurate survey of the meadow with leveling instruments, and ascertain where one or two main open ditches can be cut and have a suitable regularity of fall or draught to carry off flood waters with the falling of the stream. The fewer ditches you can have, and yet get rid of the water, the more convenient will be the after tillage of the land."

2. In digging these ditches it is convenient to use models of light scantling or lath, "of the right width for the bottom of the ditch, and the sides of them flaring out at an angle of forty-five degrees;" the workman should try his work by such a model from time to time, in order to regulate the width of the ditch at the top, according to its depth, for that will vary with every inequality of surface when the bottom is kept at a certain regulated grade of descent. The earth taken out, may perhaps be valuable for the compost heap, or for leveling up hollows in the meadow surface; and, after plowing, farther attention may be given to cutting off knolls as well as filling depressions.

3. "After completing the ditches, and the land has dried off sufficiently to permit of plowing it, any time in the season previous to about the first week in September, plow as much of it as you can at one time manage. I should think certainly as much as nine or ten inches deep, so as to bury the old sod thoroughly, and kill its roots. Perhaps it would be still better to plow a foot deep. Be particular in plowing to get the old swampy vegetation all under, lest otherwise it should grow up again, to the injury of the new seeding."

4. The sod and subsoil plow will make the best tillage, provided the sod is not too rooty and stubborn to allow of the use of the little skim or leading plow. If the sod is too much for the skim plow to contend with successfully, then a large powerful breaking-up plow of the flat furrow sod kind, drawn by four or six oxen, will be best.

5. The meadow should be seeded after the application of "15 or 20 loads of compost per acre, made of manure and good upland loam," and harrowed in,—if possible "as early as the first half of August, or even in July, if it can then be attended to, for that will give the young grass time to get firmly rooted before the winter or spring floods come on, so that it will not be likely to be killed by the overflow." Mr. H. recommends "a half bushel of herds grass and a bushel of red-top seeds per acre," covered with a brush or light roller, although if fowl-meadow grass can be procured, he thinks a bushel and a half of this seed preferable for such a location, as rather benefitted than otherwise by an occasional flooding; "it delights in a moist but not wet soil, and yields a very thick and heavy swath, and superb quality of hay, and is very lasting in the land, provided it is not cut too early."

Such a drainage and stocking down under cultivated grasses, together with occasional future top-dressings of compost, "will doubtless make the meadow very valuable grass land."

X. Plowing and Seeding Bog-Meadow.

In the case of a real bog-meadow already drained, on which it is desired to supersede the wild grasses with cultivated ones, an August plowing is recommended, eight or ten inches deep—not always an easy task:—

"You can do nothing at all effective and satisfactory towards the subjugation of your meadow, with a common green sward plow. The bog-meadow plow is rigged with a wide steel edged share, having a sharp cutting edge, and kept so during use by frequent applications of a file, so as to cut the wild grass roots completely, to the extent of the entire width of the furrow-slice, and thus permit it to turn over surely. You cannot turn the boggy sward unless its roots are severed on the under side of the furrow-slice; if a portion of them are left uncut, they will pull the slice back into its original place again in spite of you. The best modern plows for such land, have a circular cutter of steel, attached by its axle to a shank or stem of wrought iron, which is clasped to the plow-beam in the same place and manner as a common cutter; and the circular plate of steel, revolving like the wheel at the end of the beam, makes a clean, effective incision, cutting the slice surely from the main land, and rendering it impossible for the sod to peel and roll up in large masses, as it is wont to do before a common cutter, because the revolutions of the circular cutter naturally hold the turf down in its place while being cut. The bog plow has a large side wheel to guage the depth of furrow, and having a wide rim to prevent it from rutting into the spongy sod. Then, too, the plow has a draft rod of iron, passing through a clevis on the end of the beam, of such construction as to admit of very wide variations in the landing of the plow, so that the point of draft, where the chain or evener is hitched to the plow, may be swung to the left, or land-ward side

of the beam, as much as twelve inches, or any distance less than that which the particular case may demand. Thus the entire team may be allowed to walk upon the sod or unbroken land—the off oxen or horses, travelling in about the place the near ones would, if the team were attached to the plow by the common hitch. This line of draft may be so nicely adjusted, that while the off oxen travel on the unbroken sod, the plow will nevertheless run perfectly true and natural in its work. It is an arrangement quite essential in plowing deep, mucky meadows, where the off oxen would mire to their bellies if compelled to travel in the soft furrow. I have seen bog-meadows superbly plowed in this way, the plow turning furrows two feet wide, and laying them in side by side so truly, as to completely bury the swamp grass, and present a clean surface for cultivation. In bog-meadow plowing, a very wide furrow-slice will turn more surely and perfectly than a narrower one, provided you have a wide cutting share, because the weight of the wide slice itself helps materially to carry the sod over after the plow has cut it and raised it from its bed."

The land having been plowed may, perhaps, be planted and cultivated a year or two, or at once stocked to grass. In the latter case, if solid enough to permit teams upon it, cart on about 30 loads per acre of one part manure to two parts upland loam, and harrow in the grass seed, as in case of the other meadow alluded to above; or if manure cannot be drawn on at once, a dressing of 500 pounds per acre of guano or superphosphate of lime will "stimulate the grass to take root well, make a vigorous early growth, and choke down wild stuff, and two years afterwards, you could top-dress with a compost of loam and manure," or the compost may be drawn on after the ground is frozen, and the grass seeds then sown.

The method thus prescribed, Mr. H. has known to be very successfully followed in the reclamation of bog meadow. Another but more expensive way, "where bog meadows are too soft and loose in texture to admit of much tillage, or to take to tame grasses well, is to cover them with a coating of an inch or more in thickness of loam or fine gravelly subsoil, carting it on to the meadow when the land is sufficiently frozen to bear up the team. On top of that a dressing of compost manure is spread, and grass seeds are sown on the manure. This coating sweetens and gives body and consistency to the surface soil, and for several years promotes a large growth of the tame grasses."

In either case the drainage must be the primary point attended to; and if with every precaution, after a few years the wild grasses begin to predominate, "the land may need to be plowed and seeded anew. But if the tame grasses hold possession mostly, then an occasional top-dressing of compost will enable the land to give you a good burden and quality of hay."

NATURE AND ART IN CULTURE.

The Fruit Growers' Association of Eastern Pennsylvania, publishes in its proceedings, a paper from the pen of F. J. Cope, the object of which is to show that the more nearly "nature" is followed, and the more artificial culture is discarded, the more successful will be the results. As he raps every one over the knuckles who comes in his way, from Downing downward, he will doubtless not object to a little criticism.

This writer, as well as others, falls into serious errors in the use of terms, and misapprehends the distinction between nature and art.

The seeds of fruit trees are scattered accidentally along fences, where they grow and produce trees. Such as are tender perish by neglect; the hardy seedlings grow up a confused mass of thorns and brush, commonly denominated "natural growth." They bear "natural fruit," that is, such as is good for nothing, with the exception of one in a thousand or so. The question is—in this growth, impeded by weeds, grass, hard soil, and other adverse causes, does Nature have as full play, as where these retarding causes are removed, and a clean mellow soil is afforded for the free growth of the tree? If she does, then the more any plant or tree is choked down and smothered, the more it grows "according to nature."

This erroneous plea for "nature," would prevent the farmer from growing anything but weeds, which is another name for plants that grow without culture. A field of corn is planted; it is neither plowed nor cultivated, and the weeds envelope the plants, placing them in the same "natural condition" as the seedling fruit trees in the fence corners already spoken of. The farmer, who by manuring and cultivating well, obtains 80 bushels per acre, adopts the "unnatural and artificial mode."

Now, we entirely discard this use of terms and this mode of reasoning. Among the many thousand plants, a dozen or two called weeds, make their own way, and crowd out others, including cultivated plants. These cultivated plants, therefore, cannot grow according to nature, unless these obstructors are removed. In a field of corn, smothered and choked down by weeds, nature cannot have the free course which it has in the well cultivated field, where nothing retards its growth. If the roots cannot penetrate the hard and baked soil, their *natural* extension is impeded, and do not develope themselves as they do in a mellow and fertile soil, where they can obtain a supply of nutriment. In the same way, a tree growing in grass and weeds, attains very imperfectly its natural growth, and lives only because it is one in a hundred that has survived on account of its natural hardiness. The removal by pruning, of crooked, crowding, half dead branches, is as essential to its healthy and natural growth, as the destruction of weeds between the plants of the corn crop. Experience has proved all this to be true in thousands of instances, and it must require a great deal of acute, smart reasoning, to arrive legitimately at a different result. We have heard of a logician, who had such confidence in his arguments, that when told that facts directly contradicted him, exclaimed triumphantly, "so much the worse for your facts—so much the worse for your facts!"

Cultivators are prone to run from one extreme to another. The writer of the article here alluded to, gives a statement of his experiments with high manuring, in order to show that all artificial modes are wrong. He dug holes four feet wide, and two feet deep; filled the hole half full with unmixed rotted mannre, earth was placed upon this, and the trees planted. Consequently, they stood over a *solid mass of manure one foot thick.* No wonder that these trees perished. We have known trees killed by a much smaller supply of unmixed manure. After this, he says he procured Downing's book, recommending "bigger holes, and of course more manure," and the next orchard was planted in part "according to Downing," that is, we suppose, with a bed of manure under each tree, more than a foot thick. Most of these trees of course died. Another orchard planted without manure, but top-dressed triennially with barn-yard scrap-

ings, lime, muck, &c., richer treatment than most orchards receive,—succeeds and bears well. But to denounce all artificial culture, as it is termed, that is, cultivation and pruning, from the failure of such wild experiments as the above, is as erroneous in logic as that of the Hibernian, who decided that a feather bed must possess intolerable hardness, because a single feather only on a rock, was as much as he could comfortably endure.

We often hear objections made to the pruning and thorough cultivation of the grape, as being unnatural. Where pruning and culture are omitted, the result is, slow growth, small leaves, and an impenetrable mass of wiry, half dead and living branches; the fruit is small, sour, and ripens late or not at all. When well cultivated and properly pruned, the leaves are of full size, the wood hard and well ripened, the fruit large and fully ripened two or three weeks before the other, into a sweet and rich flavor. The small sour fruit cannot be kept in winter; the juice being watery, easily freezes; or readily evaporating, the fruit withers. The large well matured berries have too rich a juice to freeze easily or to evaporate readily, and may be kept till spring. In which of these has "nature" had the best chance to develope?

There are many excellent suggestions in the article, and some bad practices properly exposed; and but for the error of plunging from one extreme into the other, the article would be highly worthy of commendation. We notice this error, because it is adopted by many fruit raisers of the present day.

MAKING DRAIN TILE OF CEMENT.

If a substitute could be found for the ordinary tile of burned clay used at present for drainage purposes, which could be employed at less expense, where from lack of either suitable clay for the purpose, or of sufficient demand to warrant the purchase of a machine and the erection of a kiln, drainage is now too formidable an undertaking to be encountered,—the discovery would be a boon of no little importance to many of our farmers. The manufacture of clay tile, in securing good clay and properly tempering it, and the management of the kiln to avoid loss from over-burning and breakage of some, and the under-burning and uselessness of others,—involve more skill and experience than has been commonly supposed; and many who have thought that simply buying a machine and hiring an extra workman or two, would enable them to make their own tile more cheaply than to purchase them and pay for their transportation from a moderate distance, have discovered in the end that the business was one including unexpected risks and more costly *leaks* than the books or their own calculations had laid down.

A late number of the French Journal of Practical Agriculture, (April 20,) contains an article stating that in the Department of Isère drain tile have been successfully made of cement—a sort of cement being found there of great hardness and consistency, and highly valued for building purposes. Some ingenious mechanics at Grenoble contrived a machine for the purpose, which is so simple, and the process itself appears so reasonable, that we have had the illustrations re-engraved for the COUNTRY GENTLEMAN, and present below as full a description as the data at command will permit. With this machine, remarks the writer, "the tile are very rapidly moulded; it is an affair of a quarter of an hour, and we obtain by the process solid tile, the durability of which, so to speak, is quite illimitable."

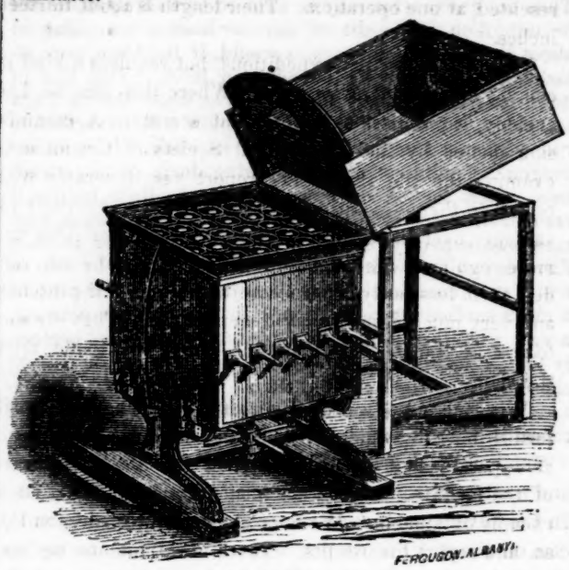


Fig. 1.—Moulding Machine for Cement Tile.

In figure 1 is shown a perspective view of the box in which the tile are moulded. They are hexagonal in exterior shape, but cylindrical in bore, as shown in figure 2, which represents a tile partially split open to expose the interior to view. The moulding box may be taken entirely to pieces; the screws shown in fig. 1 are loosened, when the whole side is removable, and the first row of moulds is then exposed, which is taken out by a handle upon each end as shown in the cut—leaving the second row exposed and removable, and so on with the third and all the others.

Fig. 2.—Cement Tile.

A wooden cylinder of the proper diameter forms the *core* around which each tile is made. These cores are inserted in holes in the bottom of the moulding box, passing through it, and supported upon a second bottom. This second bottom may be raised or lowered at pleasure by means of the screw with handles, shown in the engraving, underneath the box, so as to regulate exactly the height of the *cores* within it.

To put the apparatus in operation the different series or rows of moulds in succession are put in place, the screws tightened, and the *cores* regulated in their sockets as above, so as not to stand above the level of the moulds. The compartment shown in fig. 1, partially elevated, rests horizontally upon the frame work under it; and here are mixed equal parts of cement and sand, with the proper quantity of water—this operation scarcely requiring five minutes. The slide of the compartment is then raised, and by lifting it a little, its contents are poured into the cavities open to receive them, filling them completely. In ten minutes more the operation is finished. The surface of the moulding box then presents the appearance shown in fig. 3, in which the tops of the tile are represented in the shaded parts. The front of the moulding box is then taken off, as above described, and the different rows of moulds successively withdrawn. Each tile is taken from its mould by sliding it off from the core. Thirty

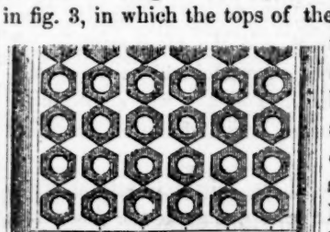


Fig. 3—Surface View of the Tile in the Mould.

tile are thus formed, according to the machine here represented, at one operation. Their length is about thirteen inches.

This method is very expeditious, but requires a kind of cement *which will set rapidly.* Where this can be had cheaply, it promises to be of great service. A commission named by the Agricultural Society of Grenoble to examine the tile thus made, report very favorably with regard to them—pointing out that they possess several advantages over tile of burned clay; they are straighter and more regular at the ends, and their hexagonal form renders them less easily displaced at the bottom of the ditches, and very much easier to lay than pipe tile. They are said to cost 30 francs—less than $6—per 1,000, made upon the spot.

With the aid of a little ingenuity, these engravings will furnish hints by which any good mechanic could construct an apparatus sufficiently complete to try the experiment of the manufacture where cement that promises well is cheaply obtainable. We hope some of our readers will do so, and report the results. There is no fuel to be consumed, and no protracted burning to be watched. The proper degree of consistency at which the cement should be put into the moulds may require some skill and experience, but we can see no reason, when the *right way* of doing the whole thing is once experimentally determined, why any laborer cannot turn out tile complete about as rapidly by this process, as they could be moulded from clay, let alone any subsequent drying and burning. If, according to the article referred to, 30 can be made in one machine in 15 minutes, 1,000 would be a moderate task for it in 10 hours.

BUYING FARM PRODUCE.

☞ A word with buyers of Farm Produce, Grain, Wool, Butter, &c:—

MAKE MERIT THE MEASURE OF PRICE.

It may seem unnecessary to call special attention to a point which one would naturally suppose must regulate itself, in the Merchant's dealing with the Farmer, as it does in his dealings with his customers. It is too often the case, however, that the necessary discrimination is not shown—through both carelessness and ignorance, perhaps, on the part of agents—and the care taken by the Farmer to secure superior merit goes in great measure unrewarded.

For example. We have known cases in which agents pass through a certain region to buy Butter, with a certain fixed price beyond which they will not or cannot go, of course making the best bargains possible below it, but generally putting it so low that there is little margin left in this direction; while here and there a farmer whose dairy may be worth two or three cents more a pound than any of his neighbors', must take the same rate or lose the opportunity of the sale—at the risk, at least, of considerable expense in marketing it in some other way, if not of missing a seasonable sale altogether. When this butter comes into market, it is the good qualities that pay a profit, while that which is inferior may do no more than return its cost.

So with Wool. The Rural New Yorker states that a wool-buyer had admitted "that some of his agents really paid as much for poor, dirty lots of wool, as for good, clean ones." This same man was complaining bitterly that farmers '"take no pains to have the fleeces clean and nice, and put in all the dirt possible. In fact,' he added, 'I don't believe there is an honest farmer in the State.'" But his whole course was precisely the one to afford the highest premium upon negligence and dishonesty, in discouraging the exercise of scrupulous neatness and an adherance to strict integrity.

The great object in doing a thing *well*, instead of badly, beyond the greater degree of personal satisfaction involved, is to know that its superiority is appreciated by others, and to have evidence of such appreciation in the corresponding price received. While, *in the long run*, skill and the most scrupulous care, are quite sure to have their reward, dealers forget how much they are themselves to blame for the negligence that too commonly exists among farmers. We have frequently remarked—and have never known the remark to be disputed—that those farmers who have succeeded best have been in the almost constant habit of getting a little *above the average price* for whatever they had to sell; but efforts to secure, more generally, the superiority which must thus command superior remuneration, are almost thrown away, when instances occur of the kind noted above. Such instances, even if exceptional, as we would fain hope they now are, make a deeper impression, like the occasional verification of a dream, than hundreds of cases in which the contrary result ensues; when skill goes unrewarded, the disappointment, even if pecuniarily small, touches one's pride, and will go much farther to dishearten him for future exertion than all the Agricultural Journals and Addresses of a year can do to encourage it.

—This lack of measuring the price offered according to the merit of the product purchased, is far more prevalent when that particular product happens to be in brisk demand than at any other time; when prices are low, inferior grades may possibly not sell at all, while *the best are sure to bring something.* With regard to Dairy Products and Wool, which will scarcely continue to maintain hereafter the prices current during the past season, there is therefore the greater urgency resting upon the farmer *to do his best.* And other prices of all sorts will be likely to recede, so that his money, although it may appear to him hard-earned, will be well worth what labor it has cost, go farther than usual, and render him in reality more independent than any other class in the community.

[For the Country Gentleman and Cultivator.]

SOWING CORN FOR FODDER.

EDITORS CO. GENT.—As it is about the time to sow fodder corn, and there is much diversity of opinion respecting its utility, I will simply state my experience.

I last year plowed up an old lot, that had not been tilled for some years, of five acres, of a light sandy loam, and sowing on but one hundred pounds of Peruvian guano per acre, with one bushel and a half of seed corn, harrowing some four or five times over to get perfectly smooth and pulverize the ground thoroughly. I gathered therefrom eighteen loads of stalks, besides about one hundred bushels of ears of corn. Several head of my cattle were wintered almost entirely upon them; they looked well, and kept as well as any of my neighbors' cattle, who were wintered on English hay, roots, &c., &c. The only "cutter" used was the brawny arm of my man, armed with a broad axe. I consider this the cheapest and best crop for fodder I can grow here. Last year mine was an experiment; this year many of my neighbors, E. J. Platt, Esq., Joshua B. Smith, Jr., and others are about trying it.

Suffolk Co., June 6. JULIUS NICHOLS, M. D.

☞ Those who complain that none of our Agricultural Publications, emanating from Societies, or issued by private establishments, reach the standard attained, for example, by the *Royal Ag. Society's Journal* in England, may perhaps be ignorant of what *such excellence costs.* We see it stated in one of our latest foreign exchanges, the *Scottish Farmer* of May 15, that the society in question probably expends from $7,500 to $10,000 per year for the contributions published in its *Journal*, editing, &c., &c. It makes an annual volume of about 600 pages.

[For the Country Gentleman and Cultivator.]

SWEDISH TURNIPS.

Editors of Co. Gentleman—I perceive by the queries and other indications in your journal, that the growth of turnips for winter feeding of stock is hitherto but very limited even in the Northern and Eastern States. This appears somewhat strange to a farmer of this locality, although it is quite probable that our geographical position, (with lakes at no great distance on three sides of us,) gives an advantage over many situations in regard to humidity. However this may be, it is quite a rare thing in this neighborhood for a farmer not to raise an acre or two of turnips; while within a few miles, there are quite a number who grow annually six, eight, ten, and in one case, between forty and fifty acres.

The article on the cultivation of ruta bagas, contained in your number of April 25, while generally correct and reliable, differs in some points from the usual practice here; and as "In the multitude of counsellors there is safety," I will state wherein I think the directions given may be improved. There may be somewhat of temerity in presuming to criticise a production so pretentious as the one in question—prefaced too by a motto from Horace; yet in farming as in every thing else, it is the part of wisdom to "Prove all things," and "Hold fast that which is good."

The statement that turnips will do best after potatoes or hoed crops with which manure has been plentifully supplied, may be quite correct; but a judicious farmer will rarely have occasion to prove it, as when his land is brought into the state implied he will take off a crop of wheat or other grain, at the same time seeding with clover, and choose for his turnips a field the condition of which will be improved by a most effective fallow.

The amount of plowing, rolling, &c., described, is doubtless intended for a pretty stiff loam, as on medium soils, (from which fine crops may be obtained,) less work will produce the desired condition; and if the land were at all grassy when plowed in the fall, the plowing in spring should (provided the cultivator will enter freely,) be omitted until preparing for drilling, by which means any rubbish turned in at the first plowing will have time to decay somewhat, while the cultivator and harrow, alternately used, will destroy whatever vegetation may appear.

I have never known the plan of making drills described in the article before me, to be adopted, except when oxen were employed—indeed with a double open furrow, I cannot conceive how the drills are to be only two feet six inches apart, and they should not be more. The method here, which is derived from English and Scotch plowmen, is as follows: Provide a doubletree twice the length you desire to have from centre to centre of your drills; beginning at one side, turn your first furrow towards your land, say four inches deep—go back empty—set your near horse in the furrow made, and if inexperienced, have a measure at first at each end to set your plow by—plow another furrow, making a second half drill—go back empty—set the near horse in the last furrow—plow a third half drill. Now haw round and put the off horse in the first furrow, the plow in the second, the near horse in the third—plow deep enough to make an even-sided drill, and you will complete No. 1; haw round and commence another half drill—when you get to the end proceed as before, and complete No. 2. In this way drills are made which are the pride of the plowman, and it is a great help to a beginner to see an expert hand do the work. After all, the best plan is to invest from $12 to $20 in an expanding double mould-board plow, with a marker, and thereby save half the work.

The recommendation to sow bone dust previous to the last ridging is an excellent one, as by its nourishment the plants are carried rapidly through the season of exposure to the fly, and sustained until their roots reach the manure below. Very good crops may be raised by manuring before ploughing in the fall, and sowing, say 300 lbs. of bone dust per acre, before making the drills. By this plan, the second drilling is saved, the manure is drawn in a season of comparative leisure, and the hauling and spreading it during the heat of summer, which is a toilsome and disagreeable task, is avoided.

The time for sowing here ranges from the first to the twenty fifth of June, and within that time success is affected much by the weather at and after sowing, it being most desirable to sow previous to rain, when the surface is dry.

The plan described for taking up the crop is a good one, but there are advantages in the simple one of pulling by hand and cutting off both main roots and top with a knife or cutter made of a piece of an old scythe. An active workman taking two rows along at once, and throwing them together each way, thereby putting four drills of turnips into a row, will accomplish not far from the same amount of work as by the other plan. The advantages are, all hands, both young and old can be employed—the main roots being cut off, the turnips may be carried in very clean provided they are not hauled when wet—they are laid in the best manner for loading, from both sides, and if you design feeding the tops to cattle they can be left entirely free from earth (an important preventive of scouring), between every two rows of turnips, to be drawn off to a grass field as required.

I may here remark that I can only account for the mention of scraping or washing before slicing by taking into account the roots uncut which hold a great deal of earth, and supposing hauling to be continued when the turnips are wet. I have fed many thousand bushels with most satisfactory results, and scores of thousands are fed every winter around, but nobody thinks of either scraping or washing, as an ordinary thing. This may seem like a trifle but practically it is not so.

There are some objections to piling the turnips in small quantities in different parts of the field, as it might be desirable to plough it in readiness for spring sowing, and the state of the land in winter or early spring might render it almost impossible to get at them when wanted. It is surely better to draw them to a place as near as convenient to the barn (at least at that end of the turnip field), taking care that they are not placed where water ever lodges.

With regard to the mode of storing in the field, having commenced with the small heap, as described, and increased to 1,500 bushels, kept in first rate condition in one continuous pile,—I find that with ventilators at regular intervals of ten feet for a pit six feet wide at bottom, the length of the heap is quite immaterial—also that excavating eight or ten inches has several advantages, and provided the situation be dry will cause no mischief. With these points settled much labor may be saved in several ways. Mark out the pit as long as it will be wanted, and 6 feet wide, with small pickets at each end and in the middle, placed half a furrow's width in from the sides. Then plow the area, turning the furrows outwards, going first carefully in the line of the pickets. The earth can then be shovelled out to each side with great ease.

The covering necessary depends so much on latitude and exposure of situation, that it is useless to specify it. Turnips had better be too cold than too warm; in general with, say six inches of straw, and eight of earth will be quite sufficient, and I think it is questionable whether by compressing the earth it does not become a more rapid conductor of heat—the surface should, however, be smoothed.

There are one or two things further which need attention for the safe keeping of turnips in pits. If you haul them during warm weather, do not cover them up, as you shut in more heat than the ventilators will let out, rather risk a rain or a night frost on them, and endeavor to close them in when the thermometer is not much above freezing. The ventilators to a pit six feet wide should be three or four inches wide, inside diameter. When the weather becomes cold, do not close the ventilators without examining them, and if the vapor is warm enough to keep them from freezing inside, do not close them yet.

If the snow drifts deep over the pit, examine it, as it will sometimes cause a heat which will be ruinous.

Guelph, C. W., May 21, 1861. S.

[For the Country Gentleman and Cultivator.]

WHEAT AFTER OATS OR CLOVER.

MESSRS. EDITORS—Permit me to have a short talk with H., Co. GENT., page 77, last vol., in relation to sowing wheat after oats. H. says, "unless circumstances render it strougly advisable to sow after spring crops, we should give wheat the full benefit of a clover lay, either summer fallowed or turning under the growth when half ripened in summer." This being the case, I would like to ask him why not sow clover seed with the oats, and if the seed took well, another year either plow under the crop, and make a short summer fallow, or, if the land is strong enough, take off a crop of early hay, and let the clover start up a few inches, and then turn it under and prepare for wheat?" If the clover seed failed, he would yet have a chance to sow the oat stubble to wheat. As to seeding on a spring crop, perhaps the best and most profitable crop to sow on corn stubble, and seed to clover with, in this vicinity, at present, is China Tea spring wheat, which has been raised more or less for the last three years, and, so far as I know, given good satisfaction. When well put in on such fields as H. proposes to sow to oats, the yield is often, and I believe generally, from 20 to 30 bushels per acre.

But to return to the main question. Not the only, nor perhaps the principal reason why I propose to seed to clover before sowing wheat, is the general opinion that wheat seldom does well after oats, though from observation and experience I am inclined to believe it is so, and I am also inclined to think that as oats come off rather late to prepare the ground for wheat, making it less likely to be put in in good season, and the oats that will be sure to come up with the wheat, will be yet more likely to prevent the wheat from getting a sufficient start to stand the winter and spring well, or be early enough to escape the midge. But leaving this out of the question, as before stated, one of the principal reasons why I would seed to clover is the benefit the crop is, or may be made to the land. I have found that I received a great deal more benefit to the land from clover when it is plowed up after laying one or two years, while the plant is yet in full vigor, and the ground full of clover roots, than when it is left three or four years, and the clover nearly all run out. This I had found to be the case several times before, but never so much nor so decided a benefit as on an eight acre lot that I planted to corn and potatoes last season. This lot, which was not in what can be called a high state of cultivation, had been in clover two years. The first year cut for hay, and the second crop saved for seed; the second year mowed, and pastured the rest of the season. Last spring there was nothing allowed to run on the lot, so that when we came to plow for corn, which we do immediately before planting, the clover had started up several inches, being what would be called good feed. It was plowed between 7 and 8 inches deep, the poorest part of the lot manured, and the corn had a dressing of plaster and ashes. Part of the field was badly infested with grubs and cut worms, so much so that between three and four days were spent in killing grubs and planting over corn. Yet we had on the seven acres planted to corn about 125 bushels of ears per acre, a considerable part of which I am satisfied was due to the clover.

These facts, together with the discussion in the Co. GENT. during the last few months in relation to improving land with clover, as well as some investigations induced by them, have so strongly impressed my mind with the value of clover as a fertilizer, and especially with filling the ground with a large mass of clover roots, to plow in as often as convenient, that I have felt strongly inclined to try a course or rotation of crops something like the following, to wit: Plow under a good clover sod for corn; sow to some spring crop after the corn, and seed to clover. The third year, if the land is not in good condition, plow under a good crop of clover, summer fallow and sow to wheat; if the land is rich, mow the first crop early, and let the second get something of a start, and then plow under and prepare and sow to wheat. Fourth year, wheat seeded to clover. Fifth and sixth years to be used for hay and clover seed, or pasture, as may be desired. This would enable me to not only keep the land in clover half of the time, but by plowing up the clover while in full vigor, and the ground full of roots, I could plow in two, more or less, good crops of clover in each rotation, which, together with what manure I would be able to make, I believe would improve my land faster than any other profitable course I am acquainted with. Being, it seems to me, a good way to combine the advantages of manuring with barnyard manure and clover.

A good many reasons might be given in favor of manuring with clover besides those already given in the discussions on that subject, and especially in relation to the value of clover roots in improving the soil. But I will forbear, after stating that comparatively very few farmers seem to be aware of the value of the roots of clover to the soil. They don't seem to be aware of the fact that after taking two or three good crops from one sowing of seed a valuable crop of clover roots is still left, which, according to an experiment given in Johnston's Agricultural Chemistry, page 423, "in a clover field at the end of the second year the fresh roots were equal to one-third of the whole weight of green clover obtained at three cuttings—one the first, and two the second year—while in the dry state there were fifty-six pounds of dry roots to every hundred pounds of clover hay which had been carried off." Consequently if the three cuttings gave four tons of hay, there would be about two and a quarter tons of dry clover roots. While in a table given by the same author, page 451, two hundred and fifty pounds of clover roots are said to be equal to one thousand pounds of farmyard manure, which would make two and a quarter tons of clover roots equal to nine tons of barnyard manure. And this is, at least in a considerable measure, corroborated by other experiments I have met with, as well as my own experience.

But I am making this talk too long. Will H. give his views in regard to these matters? F. *Orleans Co., N. Y.*

[For the Country Gentleman and Cultivator.]

To what Crop to Apply Manure.

EDS. CO. GENT.—In the Co. GENT. of April 18, the question "What crop shall we manure?" is asked. Experience is said to be a *dear* school, but after all that is or may be said, it gives us facts, and facts no class or profession need more than the farmer. To him experience may not be dear, for he can try his experiments on a small or a large scale. He *should* be an experimentalist. No man, however small or few his acres may be, should let twelve months pass over his head without trying one or more experiments, and noting down carefully when he sowed or planted, how he did it, what the soil, seed and season were, and what the result was. It takes but little time, and in the end it makes a pile of notes worth reading.

I have done so for the past fifteen years; but on looking over my notes, I find they do not in some respects agree with those of my brother farmers. My experience is that manures cannot be used to better advantage, and with more profit in the end, than on clover and timothy, or whatever you seed down your land with. My experience teaches me not to run my land, i. e., taking off say ten or a dozen crops of grain in succession. I turn over the sod and plant either corn or potatoes, or sow with peas—sometimes with oats. I take off usually two or more grain or root crops, and seed down with clover and timothy, or either. I apply the manure, as fast as made or rotted sufficiently, to all the meadows or pastures, or as far as possible—a light coat is better than none. Experience says sow a half bushel of clover and timothy seed to the acre, on land not underdrained, drag it in or not, but be sure to roll afterwards. Keep putting on your manure every year until you wish to plow. Turn over your sod and proceed as before. Experience teaches me that my land is growing more productive every year.

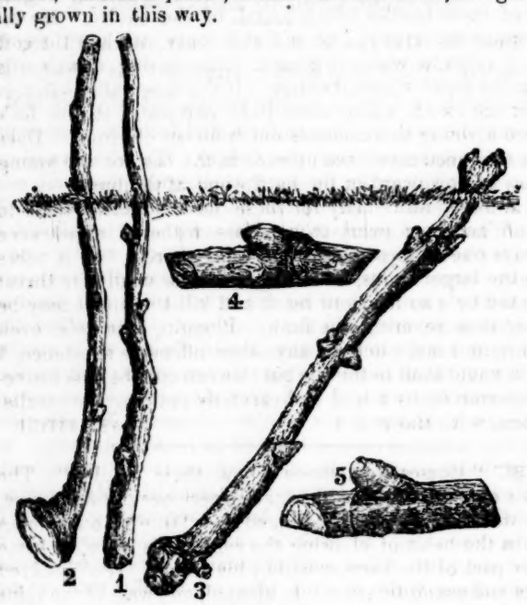
Springwater, N. Y. BYRON.

Growing Grapevines, &c., from Cuttings.

In the Co. Gent. of May 16, p. 318, we published a communication from Mr. Miner, controverting a statement of the *Rural New Yorker*, that the Delaware Grape could be grown from cuttings, to which that paper replies as follows:—

We repeat, what we before said, that the Delaware will grow from cuttings. This we know, as we had a good many grown in that manner, and out of doors, last spring. We readily admit that the Delaware will not root as freely as the Isabella and many other varieties, but we do say that the short cuttings of the Isabella, planted as described above, would fail in nine cases out of ten. Under the most favorable circumstances of soil and climate, a short cutting will root, but then it should never be planted two inches below the soil. The proper cutting for out-doors is a long one, with about four buds, set sloping, with one eye just above the surface. The following is what Mr. Barry says on this subject in his Fruit Book: "As a general thing, cuttings should be inserted so deep that only two buds will be above the surface of the ground, and in the vine only *one*. If cuttings are long, they need not be set perpendicular, but sloping, so as to be within reach of heat and air. A cutting of a single eye of the vine with a piece of wood attached, must be entirely covered, say half an inch deep. But such cuttings are seldom planted, except in pots, in houses, or in hot-beds."

Since there has been a good deal of excitement on the grape question, and vines of some new varieties have been scarce and dear, our nurserymen have propagated grapes in houses very rapidly. This process we will not at present describe. The soil for all cuttings should be well prepared, mellow, finely pulverized and moderately rich. Propagation by cuttings consists in causing a shoot to grow by detaching it from the parent tree and planting it in the ground, at the proper season and under favorable circumstances for the development of roots. All fruit trees may be grown from the cuttings, but only a very few grow with sufficient ease to make it desirable or profitable to propagate them in this way. The gooseberry, currant, vine and quince, of our common fruits, are generally grown in this way.



Grape Cuttings.

A *cutting* is a shoot or a part of a shoot, and generally of one season's growth. A foot is the proper length for cuttings, for ordinary out-door culture, though under some circumstances a single eye or joint is used. We give an engraving, showing the different forms of cuttings as well as the manner of planting. The wood should be as stout and mature as possible, and should be cut close and smooth to a bud at both ends, as seen in figure 1. Cuttings, taken off closely to the old wood, with the base attached, as in figure 2, are more certain to grow than when cut at any point above, and in the quince an inch or two of the old wood left attached renders success more certain. The philosophy of the matter is, that the descending wood-forming sap forces out roots at the lower end of the shoot, and thus the cutting becomes a new plant. The more buds that can be got around the base of a cutting, the better, for these buds, as soon as they become active, send down new matter for the formation of roots.

Scarce varieties of grapes are propagated by eyes having about two inches of wood attached, as seen in figure 4, and success is supposed by many to be more certain where the joint is halved before planting, as shown in figure 5. When this mode is adopted, it is usual to plant the eyes about half an inch deep in light soil in a hot bed, or in pots in a propagating house. Figure 5 should not be planted deep as shown in the engraving, being placed there to economise space in our columns.

Cuttings should be inserted so deep that only two buds will be above the surface of the soil, and in the vine only one. Vine cuttings it is well to make long, but they need not be set upright so as to be out of the reach of heat and air, but sloping, as we have endeavored to show in figure 3. They may be set much more sloping than we have been able to exhibit in the engraving, from lack of room.

Cuttings may be made any time during the fall or early winter. It should always be done before the buds begin to swell. A soil for cuttings should be mellow and warm, yet sufficiently compact to retain moisture. Those who try to grow them in a hard, baking, compact soil, or one low and wet, or dry and sandy, will assuredly fail.

Very early in the spring is the best time, all things considered, to plant cuttings. If it is delayed until late, the warm weather starts the leaves before sufficient roots are formed to supply the demand they make for sustenance, and the cutting dries and perishes. Those who grow only a few cuttings could shade them, or spread sawdust about them, to preserve an even temperature.

Cuttings made in the fall may be buried out of doors in a pit where the water will not stand. A mound of earth should be made over the pit to throw off the water. Particular attention should be given to cuttings after planting, to keep the weeds destroyed and the ground in a mellow condition.

BALLOON FRAMES---14th Article.

[Written exclusively for the Country Gentleman by Geo. E. Woodward, Architect and Civil Engineer, No. 29 Broadway, N. Y.]

It sometimes happens, in the construction of large buildings, that both strength and economy are better consulted by having the floor joists run parallel with the front, or at right angles to the direction of the rafters. The roofs of such buildings should be supported by a gallows frame, or in some manner so that the thrust of the rafters may not come on to the studding of the outside walls. In small buildings, the arrangement is such, that the thrust of the rafters is in the direction of the fibre of the floor joists, and the gable end studs are secured at each floor by nailing them to the side of the floor joist. But in larger buildings, it is necessary to run the floor planks in along side the studding, and nail them, in the manner shown in fig. 23, so as to make the tie in that direction perfectly secure. If the building be of that size and arrangement that the thrust of the rafters come in the direction of the floor plank, and it is not deemed necessary to introduce any interior support to the roof, an iron anchor, or better still, an iron bolt, as shown, may be used to secure every 3rd or 4th stud, and this, together with the nailing, as described, will make all abundantly safe and secure.

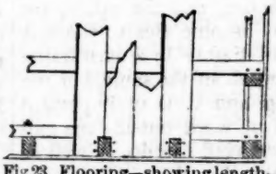


Fig 23. Flooring—showing lengthwise and crosswise manner of tying frame.

The size of building and span of roof, the degree of

pitch, and the manner of supporting the roof, will sometimes make it necessary to use a little deeper studding. This applies more particularly to barns, and those houses whose upper stories are less than whole ones. The steeper the roof, the less the thrust; the flat Italian roofs have the strongest thrust. It is not possible to give such instructions, or even such sizes of timber as will suit all cases. We give the general principles, and one must use his own judgment as to what will best meet his particular wants.

It is altogether probable your mechanic, if you employ one, will use all his eloquence to dissuade you from adopting this frame, he thinking, by its use, that "Othello's occupation will be gone." If you still decide to try it, then he will insist on heavier timbers; the prejudice in favor of heavy clumsy timber is hard to eradicate. The great point of weakness urged in the Balloon frame, is in the side-girt 1 by 4 inches, which is thought better 2 by 4 in., if it did not weaken the studding too much when gained in. The fact is, the floor joists, which are of the same strength as in the old fashioned frame, will break before a 1 by 4 in. side-girt will give way. The force applied here is a crushing, instead of a breaking force, and requires six tons weight on every surface inch of the bearing to do that. If it were to sustain a breaking force only, a girt 1 by 6 in. is *one-eighth stronger* than one 2 by 4 in., and 25 per cent. less material in it. A floor joist, 2 by 9 8-10 inches, is of the same strength as one of 3 by 8 inches, and less material by above twenty per cent. A knowledge of the strength of materials and their application, has a money value when one contemplates building.

A peculiarity of the Balloon frame, as we have before stated, is that each floor beam and rafter is supported by a stud running from foundation; the same strength is thus had with lighter materials, on the same principle that a bridge with ten piers may be lighter than one of equal length that has not any. Where wide openings, like bays, are indispensable, it becomes necessary to increase the sizes of the timber, and to adopt the mortice, tenon, and brace.

In fig. 24, is illustrated the manner of framing the largest class of Barns, having large bays and a threshing floor, and being 20 feet from sill to rafter plate. A gallows frame is constructed in the usual way, of heavy timber, and around this is erected the Balloon frame; the studs used are 2 by 6 inches, every 3rd one being 2 by 8 inches, and into which, the side girt is gained, being nailed to others; this supports one end of the temporary floor. The studs are from 2 to 2½ feet apart, and the whole side is precisely like a floor turned up on its edge; it is held securely by the floor joists at the bottom, and the rafters and ties at the top. The gallows frame is built of 6 by 8 inch timber, and the rafters are to be so secured to it, that they become ties to the side studding. There is no saving of timber in a barn frame like this; the total quantity being about the same, but the sizes far less. The great saving, and it is an important one, is in the labor; as there is no work outside the gallows frame, but what an ordinary hand can do, as well as a finished mechanic. We believe that this makes a far stronger frame than that made with heavy timbers, and is as fully adapted to its purpose. Of the lateral thrust of hay to any extent, we have our doubts, and should not deem it necessary to make any very great calculation to counteract it: those who consider it of much importance may make the studding little deeper.

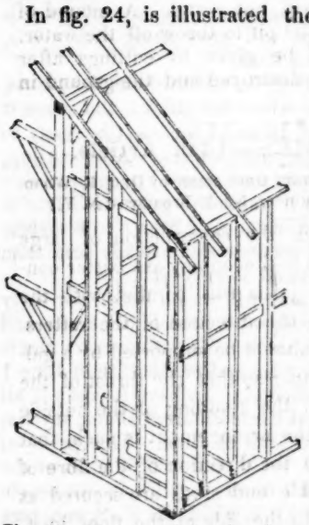


Fig. 24.—Manner of framing large Barns, Balloon style.

[For the Country Gentleman and Cultivator.]

No. 28---APPLE TREE BORER.

A subscriber in Doniphan Co., Kansas, writes under date of May 10th:

I find on my pear and apple trees the enclosed bug—said bug enters either at the topmost fork or forks of the tree, or at the intersection of the young limbs with the trees, or at the top of the young buds—he seems to seek the heart of the bud, or the pith or marrow of the young limbs. Its ravages injure the tree exceedingly, generally destroying the limbs, and always the buds, attacked. Queries—1. What is it?—2. Is there any preventive, except watchfulness and the darning needle?—3. Should the parts damaged be cut off or out, or the holes stopped with something? Is the rascal a native here and elsewhere in the United States? I can't find him on my neighbors' apple trees.

The insect enclosed in the above communication is the the apple twig borer—the *Bostrichus bicandatus* of Say. It is a hard shelled beetle, varying in size from a quarter to nearly three-eights of an inch in length, and four times as long as thick. It appears of an exactly cylindrical form when viewed on the back, but it is slightly flattened on its under side. Its color is very dark chestnut brown above, and black beneath. Its thorax or fore body is almost globular, and conspicuously separated from the hind body. Its forward end is very rough from projecting points, like a rasp or grater, and in the males here are two longer processes, like little horns, whilst at the hind end, above the tips of the wing covers, are two small, prickle-like points, which are curved inwards, and which do not occur in the females. These marks will sufficiently distinguish this from all the other insects found on our fruit trees.

This apple twig borer has of late years been common in the orchards of Michigan and Illinois, and occurs from Pennsylvania to Mississippi; but I do not know that it has ever been met with in New-York or New-England. Where it is present among apple trees, particular twigs will be observed withering and dying in the middle of the summer, and on examining these twigs at one of the buds from six to twelve inches from the tip end, a hole the size of a knitting needle is found running into the pith or heart of the twig, which pith is consumed some inches in length, one of these beetles being found in the cavity. My information hitherto has been that it only attacked the soft young twigs in which is a large pith—boring downwards from the point where it enters. If the observations in this letter are exact, it also sometimes perforates at the fork where a young shoot comes out from an old limb. Does it in such instances bore upward in the base of the young shoot, or downward in the hard wood of the limb?

I know of no remedy for these insects better than to cut off and burn every twig whose withered appearance betrays one of these culprits nestling therein. If it bores into the larger limbs, a darning needle or small wire thrust into the hole so far as to reach and kill the insect may be better than severing the limb. Plugging the hole, even with hard soap, pitch or any other offensive substance, I think would avail nothing; but this can only be conclusively determined by a trial and carefully noticing the results.

Salem, N. Y., May 26, 1861. ASA FITCH.

☞ "Horses sometimes gnaw their bridles." The editor of the Homestead has had experience in such a case, and devised an excellent remedy:—"One of our horses was in the habit of chewing the rein of his mate, or some other part of the harness within his reach. We dissolved aloes and assafœtida in dilute alcohol, and washed the reins with the tincture. One trial was enough for the beast, as he did not like the medicine."

☞ The Kentucky Ag'l. and Mechanical Association at their annual meeting in Lexington on the 11th inst., elected the following board for the ensuing year:

President—Benj. Gratz.
Vice President—R. A. Alexander.
Secretary and Treasurer—P. Burgess Hunt.
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[For the Country Gentleman and Cultivator.]

MISCELLANEOUS NOTES.

Soaking Grain.

Somewhat has been said, *pro* and *con*, at one time and another, concerning the policy of soaking grain before feeding. For sheep, at all events, we are satisfied the practice is inexpedient. Having fed lambs, (yearlings,) with peas a portion of the past winter, and the grain becoming so hard that it was with difficulty broken, and the teeth of the lambs in consequence getting sore, we soaked a few peas until comparatively soft; yet, although the water was well drained off, the lambs could hardly be induced to eat them, appearing to decidedly prefer the dry, flinty grain, over which they made wry faces as they cracked it. For hogs, on the contrary, we find soaked peas excellent. But sheep dislike anything "mussy."

Parsnips.

There appears to be a discrepancy between Mr. BARTLETT, (p. 234,) and GEORGE, (p. 282.) Dr. Lankester, as cited by the former, gives the parsnip more than twice as much *starch* and fiber as the potato. GEORGE'S authority (not named,) gives the potato three times as much as the parsnip. Here we should suppose the latter the more correct. Again, while the former only allows the parsnip to possess about twice as much *gum* as the potato, the latter states it as containing full seven times as much. Again, while Mr. B.'s authority gives the parsnip *less sugar* than the potato, GEORGE gives it nearly twice as much. Here, too, is not the latter correct? Again, though neither is very clear, the former gives the parsnip less flesh-producing constituents, while the latter allows the parsnip twice as much of this quality as the potato. Here, we should say, the error is on the other side. Had the tables said fat-producing, the ratio of two to one might seem reasonable. Attention is directed to these discrepancies not for the sake of criticism, but to induce investigation. The parsnip deserves a trial.

Hungarian Grass.

The response of W. R., (p. 283,) which had not appeared when our second inquiry, (p. 304,) was written, is satisfactory, except that his meridian, (Nebraska,) is so distant from ours, (western N. Y.,) that some of his remarks may not apply here. May we not hear from some one nearer home? N. N. N., (p. 125,) regarded the hay injurious to horses. If all that is said in its favor from Iowa, in U. S. Patent Office Ag. Report, 1856, p. 306, is applicable here, the crop deserves *immediate* and *general attention*.

The Best Time to Fell Timber,

(Page 305, &c.,) is undoubtedly summer. But the theory and practice of the past are against us. A statute of James I. recognizes the superior quality of timber winter-felled. In France, as long ago as 1669, a royal ordinance limited the felling to the period from Oct. 1 to April 15. The first Napoleon issued a decree, setting forth that ships built of timber felled at the moment of vegetation, were liable to rapid decay, and required immediate repairs from the effect of "*fermentation of the sap*" in the wood, and abridging the time of felling timber for naval purposes, directing that it take place only in *the wane of the moon*, from November 1 to March 15. From the foregoing it will be seen that the doctrine of winter-felling, though now proved by experience to be erroneous, has high authority, and that even Napoleon the Great put faith in "lunar influence."

Covering Land with Straw.

For grass this may answer, (p. 304.) Undoubtedly grass will grow better where even a blanket has lain. But upon wheat, the writer very well recollects his father tried the experiment many years ago, and obtained a fair crop of chess, with a few heads of wheat which never ripened. We are all apt to generalize hastily upon too small a basis of induction; but a farmer who cannot afford to experiment frequently, may be excused from a second trial after so disastrous a result from the first, even granting it to be possible that the failure was owing to other causes.

HAMPDEN.

[For the Country Gentleman and Cultivator.]

CULTURE OF RAPE.

In reply to an inquiry from H. V. S., in Co. GENT. of May 9, respecting the cultivation of rape, and the kind of land most suitable for its growth, I wish to say: The land best adapted for growing rape is a deep black loam, laying low, or of a moist nature. Such a soil, with a good cultivation, will produce good rape without manure. But if H. V. S. has no such piece of ground, and is compelled to use old ground, it should have a good dressing of dung, or hand manure, such as guano or ground bones. I got good rape last year with seven hundred pounds of ground bones to the acre, sown broadcast on the surface before ridging up. The ridges 24 inches apart, made with a common plow. The seed drilled in on the 7th of June, one pound to the acre. The plants grew 2½ feet high, and I commenced eating off with sheep in the middle of August. Spring wheat is growing on the same ground at the present time, and looks well.

As regards the preparation of the soil, if the dung could be put on in the fall of the year, I should prefer it to spring manuring, for two reasons. First, the flies are worse on the young plants if the dung is put on in spring; and second, it crowds the spring work very much, having the dung to haul, especially in a late and wet spring like the present. But if the ground is dunged in the fall, and plowed to a good depth, it gives the frost a chance to pulverize, and makes it work more easily. As soon as the ground will admit in the spring, cross plow and work down with the harrow and cultivator to a fine, smooth surface, and draw the ridges from 24 to 26 inches apart. Roll with a light roller, to keep in the moisture, and then put in the seed with a little seed drill or barrow, such as is used for drilling the ruta bagas, which can be wheeled by a man, in the center of each ridge. As soon as the plants are up about two inches, or well broke out into rough leaf, start the horse hoe between the rows. Do not suffer weeds of any kind to grow. Rape will grow along with weeds, but grows far better without them.

If wanted for early feeding, do not thin out the plants, as they grow much quicker when left thick; and when it has got about the height of 12 or 14 inches it is ready to commence cutting a little for young calves. After cutting, it will make a second growth, and throw up considerable food for fall feeding. But if wanted to grow until late in fall, thin out the plants to a distance of from 6 to 8 inches. It will then stool out, and produce more to the acre than a thick crop, unless the ground is very rich.

The amount of seed per acre will vary a little; for early sowing, put on plenty of seed, say 2 pounds per acre; and if the flies are troublesome, there will be some extra plants for them to work at; but any time after the 15th of June 1 pound per acre is quite sufficient. To have it come in all through the summer, sow at three different times, say last week in May, and 15th and 30th of June. The price of seed is 25 cents per pound, retail, and sold by most of the seed stores in Canada, and I think very likely can be obtained in Albany and New-York, which H. V. S. can very soon ascertain. J. K. *Guelph, Canada West.*

[For the Country Gentleman and Cultivator.]

COST OF FENCING.

MESSRS. EDITORS—My respect for your Warner correspondent is such, that whenever I see his name on your title page, I turn *first* to the article connected therewith. So did I to-day, on receiving your paper of this date, (May 9th,) and have read his remarks *on fence-making*. It is perfectly astounding to estimate the amount expended for this purpose, especially when stone walls are erected at an expense of one or more dollars per rod. I know of many farms, where the walls upon them have cost as

much or more than the farms would command in the market. This is anything but good economy.

I like you correspondent's idea of saving land in the construction of fences, and building them so that they will not need to be rebuilt once in a dozen years—as is the case with most wooden fences that have come within my observation. Where is the necessity of so much fencing? If cattle are not suffered to run at large, most crops will grow just as well when the land is not subdivided by fences in lots, as when it is so divided. Is not this one of the absurdities in management that has been generally practiced without considering the necessity thereof? I presume this superabundance of fencing is much more common in New-England than in New-York, or on the prairies of the West, though I have never seen much of those lands, and now never expect to see them.

May, 1861. ESSEX.

"TRY FOR BETTER CROPS."

We frequently observe the reminder that the demand for farm products is to be largely increased by the war; hence farmers should sow and plant more largely than usual. This may be good advice, rightly taken; but the better admonition in our view is, to "try to grow larger crops," by preparing the ground more thoroughly, cultivating better, and giving attention to every means to increase the product.

As much corn can be grown on five acres, well manured and carefully planted, with some hill-fertilizer to give it an early start, and then given clean and mellow culture, so as to enjoy the full strength of the soil, as upon ten acres imperfectly prepared, carelessly planted, and half smothered with weeds through the season. The same is true of beans and potatoes, as well as root crops. The spring grains are much better for a thorough preparation of the soil, and careful attention to harvesting will farther enhance their value. It is of little use to sow largely and then waste for want of attention, as was largely the case the past season in some localities for want of help and pleasant weather—much corn remaining unhusked through the winter, and large losses falling on other crops.

Every farmer may perhaps be able to recall some instance where he has suffered loss by sowing or planting too largely, but few we opine can say they have given too good care to their crops—have farmed too high—or cultivated too thoroughly or cleanly. Let us grow all we can, in view of the home and foreign demand, but remember that good crops are more important in forwarding the desired result, than largely increased seeding without careful preparation and cultivation of the soil.

Why do Hens Eat their Eggs?

It has already been stated that eggs are composed chiefly of *albumen*. Now, when fowls are compelled to eat, grind, and digest a large quantity of coarse food, which contains but little albumen, there is a longing and hankering after more nourishment, or something that will supply the waste of their systems, which is daily passing off in the form of eggs. I suppose that this hankering is not unlike the sensation which a man feels who is making an effort to abandon the use of tobacco, although I am not able to speak from *personal experience* in such a matter, having never tasted nor smoked the "devil's weed." Consequently, they are ready to devour anything that is eatable, and as soon as they get a *taste* of eggs, they find that they obtain a large quantity of just the nourishment which is demanded by their systems, and but little time and muscular energy is required to transform it into eggs again.

Another thing, also, which induces hens to eat their eggs, is, they have a hankering for something that will form *a good shell*; and nothing is better for that purpose than the very shells. Consequently, when the shells of eggs are thrown to hens, when only broken in two, it will often learn them to try a whole shell when the egg is in it.

Fowls, when laying, must have *lime*. I keep a dish of clear lime always within their reach. This is far better than to compel them to pick and work over a lot of mortar, for the sake of obtaining only a small quantity of lime. Every egg shell should be broken into small fragments, and mingled with fresh meat chopped fine, or with scalded meal thickened with milk, or even made thick like mush. By allowing hens to have all the lime they need, the egg shells will be much thicker and more firm, than they will when hens are compelled to find materials for the egg shells only in their food, or in bits of old mortar, or by eating lumps of earth.

Lake Ridge, Tompkins Co., N. Y. S. EDWARDS TODD.

Hen's Nests—Sure Remedy for Eating Eggs.

Fowls of all kinds when laying, like a secret place, where their fellows cannot see them. Therefore, they do not like to squat down in the hennery, surrounded by a greedy flock, that are ready to pounce into the nest, as soon as an egg is layed, and devour it. Therefore, to gratify the hen's secretiveness, and at the same time save the eggs from being devoured by any one of the flock, my practice has been, for a number of years, to make their nests of *nail kegs*—not those that are very small, nor the largest ones, but of those that will hold about one hundred lbs. of nails. In years past, I have been accustomed to fill a keg about half full of straw for a nest; but, the past winter, I have sawed all the kegs in two equal parts; knocking out the heads, and then nail a piece of cloth over the large end of each half-keg, for a bottom. Any kind of old or new cloth may be tacked on with small trimming tacks. During the winter, these half-kegs are nailed up against the side of the hennery, about four feet from the floor. Hens that lay will soon learn that when they get into these nests, their fellows cannot see them, as they are completely secluded in their cosy little nests; and if they themselves, are disposed to eat eggs, they find, that if they attempt it, while standing on the edge of the keg, they cannot reach them conveniently; and if they hop down into the nest, and attempt to pick the eggs, they will roll down against their feet, and they soon learn, that they are not able to pick hard enough in such a position, to break the shell. I find that a *cloth* bottom is superior to a wooden bottom, covered with a nest of straw.

As the weather becomes warmer, so that the hens seek nests in the yard, we make nests in secluded nooks, or the kegs might be removed from the hennery, and nailed against the side of the fence, and a little roof made over them.

Confining Poultry in their Yard.

Hens like a great range, and they always do infinitely better to run at large, most of the time, at least, than they will when confined even in a spacious poultry yard. I allow my poultry-yard gates to be open as much as possible; and when it is desirable to keep the poultry in their yard, we are sure to let them out for two or more hours before night. This enables them to obtain food that they cannot find in their enclosure, such as bugs, worms, fresh grass and such like; and by keeping them in their yard during most of the day, all their eggs are layed in their nests in the yard or in the hennery; and as their time is limited for ranging about, they seldom stop to scratch much, even in the garden or other places. If they are let out of their yard in the former part of the day, they will soon be making nests, when the eggs will be lost, or will be into some mischief, when it will be difficult to get them back again; whereas, at evening they will return themselves, when the gates can be closed.

Lake Ridge, Tompkins Co., N. Y. S. EDWARDS TODD.

Keeping Hams.

We have found it a good method in keeping hams and shoulders, to let them hang in the smoke-house, or a tight, dark room, and give a few hours smoking every week or ten days. This will keep out flies and bugs, and keep the meat free from damp and mould. B.

SPICED HASH.—Take the remnants of a cold steak, or any other kind of roast or boiled meats; hash them fine, and mix with potatoes well mashed, and add one or two beaten eggs; season to your liking, with salt, pepper, nutmeg or mace, and cloves; make it into a loaf and bake brown; it is good eaten hot or cold.

[For the Country Gentleman and Cultivator.]

"OLD HURRICANE" ON ROOTS.

MESSRS. L. TUCKER & SON—Having been more than usually successful this last season in the culture of roots—mangel wurtzel, sugar, long blood, red and turnip beets, ruta baga, cowhorn, flat purple-top, and white French turnips, (these last, by-the-by, excel all others greatly as a table root, lasting well into June, and good also in the autumn and at all times,)—my practice may be of interest to some of your many readers.

The beet seed I plant as early as possible in highly enriched beds—the earlier the better—and transplant the last of May or early June, to the land intended for beets, that has been highly manured, and thoroughly and deeply plowed, and pulverized by frequent harrowing. Then select a cloudy day for transplanting. Have the plants carefully raised with a spade from the seed-bed, earth and all, and afterwards carefully separated. Let one with an iron-pointed stick make the holes, another place the plants in the holes, and the third one follow with a sharpened stick, earthing the plants well in, and few, if any, of the plants will perish, as the beet bears transplanting remarkably well, and these two past seasons I have noticed little, if any, difference in the size of those transplanted and those left in the seed-bed. By transplanting, you get older, consequently larger roots than by field culture. You also plant the rows nearer together, and have more plants to the acre; also save two hoeings and thinnings—the most tedious and expensive work about root culture; also, by later working, your land is in finer and better condition, every way more satisfactory. The greatest and only drawback I have found, has been the weather, about the time the roots should be transplanted; as cloudy weather is desirable—almost necessary.

Parsnips and carrots I have sown in drills, on clean good land, and cultivated in the usual manner; but this year I have departed from my usual practice, and sowed in *raised drills*—height of drill four to five inches above valley—on highly manured land, and have never seen my roots look so well at this early season.

Soaking the seeds in warm water thirty-six to forty-eight hours, will make several days difference with their germinating; consequently they are not smothered with weeds before appearing above ground. In sowing the soaked seed, drain them well, and mix in corn-meal until they will easily sow and separate.

I have also planted my beet seed in raised drills, but shall transplant as heretofore.

And now for the turnip crop. It is customary for my neighbors—at least all of those who are feeding a large number of milch cows—to raise one or more acres, either flat or cowhorn, as these can be sowed late, and are of large *bulk*. Their practice is to sow broadcast, and frequently when seeding down fields to timothy and clover, to manure highly and mix the turnip and timothy seed together, sowing the clover in the spring, and in such fields there is usually a splendid crop of weeds.

Very few or no ruta bagas are cultivated—they say it is too much labor and expense—and none of the beet family. This broadcast manner of raising a root crop seems to me a lazy, dirty, slipshod manner of farming.

Is not the excuse, viz: too much labor, the root of bad agriculture?

The writer, so long as he raises roots, will give them clean culture, and for sound business reasons. It will not pay him to half cultivate; he must tax his soil to its utmost capacity by the highest manuring and cleanest culture, *leaving his land at the close of each season in better condition than at the beginning.* Again, I am satisfied, from an examination of my own crops, and those of others, *that it pays.*

Last season was my maiden effort at turnip culture. I planted and cultivated in drills, giving good clean culture, but had little or no manure, and yet of some three or four acres, all that had any manure, are very superior to those of my neighbors, both in size, quantity and quality, who *manured without stint*, and sowed broadcast.

In the early part of July I prepared a half acre for ruta bagas: *gave the land no manure*, sowed the seed in raised drills, four to five inches above the valleys, and such a crop as I had, so large and weighty, uniformly so, many weighing 12 to 14 pounds, the admiration of every one who saw them, and yet at this date, 26th of May, are as cookable, eatable and palatable as last autumn. My design is to put in several acres this season, and to manure highly and sow in raised drills. My land is prepared in the following manner:

1st. Well and deeply plowed.

2d. Well harrowed.

3d. Open drills for manure by going with small plow twice in the same furrow.

4th. With wagon or cart draw the manure, and afterwards fill in the furrows.

5th. Covering manure by going twice on each side, this leaves a ridge.

6th. With hoes, or roller, clear and even the tops of the ridges.

7th. The ground being now ready, sow your seed, either by hand or with a machine.

Jersey Farms. "OLD HURRICANE."

P. S.—The writer sends greetings to his relative at Claverack, N. Y., "Ballarach," and thanks him for his considerate invitation to visit the Dutch region, known, wherever it be, for its hearty hospitality; and furthermore, the writer will, during the present season, Providence permitting, avail himself of this kind and generous invite.

[For the Country Gentleman and Cultivator.]

How to Enlarge the Manure Heap.

MESSRS. EDITORS—There are several ways for increasing the quantity of manure made upon the farm; some modes are better than others, but all are *good*—the *poorest* better than none. Those who have access to muck, undoubtedly have the best material for this purpose, for in addition to its intrinsic value as a fertilizer, when properly composted, it is a good absorbent, and if used when dry, it will take up and hold the liquid portions of the manure, and thereby save what would otherwise be lost. Many, however, cannot resort to this material, if so disposed—myself being of this number. I should consider it a windfall, if on awaking some morning I should find an acre or so of my farm converted into a muck swamp of the right kind. But as this transmutation has not yet, and is not likely to take place, I have for some years practiced the following method for enlarging the "pile," and find I can about double the quantity made, while the quality is equally as good, for all the liquid is saved.

I usually plow up from five to ten acres of green sward in the fall, and before I commence plowing I stake out the ground, and with the team and plow go round the piece and turn up a furrow. This furrow I draw to the barn-yard, and a portion of it is spread over the bottom of the yard; a pile is then made conveniently near, to be mixed with the manure as it is taken from the stable. This can be done until freezing weather. The manure thus made in the early part of the fall, is drawn out in March, or before the frost is out of the ground, and dropped in small piles, to be spread just before working the ground for spring crops. The turf by this time has become pretty thoroughly rotted, and well saturated with the liquid manure, and the handling in loading and unloading mixes the whole together. That made later—during the winter and spring—is moved a short distance as soon as the remainder of the turf is thawed sufficiently to be handled, and all is mixed together. This is forked over once during the summer, and is put upon the land in the fall and plowed in. I use a good deal of straw for bedding, and this, with the turf, absorbs all the liquid. At the lower side of the yard there is a sink or basin, which is filled with turf to take up the washings of the

yard. In the spring the yard is thoroughly cleared up, and all thrown into a pile together for fall use, and the ground is covered about a foot thick with the sod, where the manure is to be deposited when taken from the stable during the summer. I find it very important to have a good supply of absorbents for summer use, for when stock are kept upon green food the quantity of urine is greatly increased; and when soiled, if enough absorbents are used, a much larger quantity of manure can be made in the same length of time, than can be made when cattle are kept upon dry food. The hog-pen is not neglected in this matter; but a plenty of litter is used here, and all goes into the common stock. After potatoes are dug, the tops are drawn to the barn-yard to be manufactured into better manure than they would make if left upon the ground. I have another mint for coining some 25 or 30 loads a year, of the very best of manure for top-dressing meadows. A quantity of this turf is drawn a little back from the house, and the top of the pile is left flat or a little dishing, and all the slops, wash-water, soap-suds, and every conceivable thing that is to be thrown out of doors is put upon it; and after it has become well saturated, it is shovelled over and leached ashes mixed with it, and then another pile takes its place. I also have about two hundred rods of open drains upon my farm, and when these are cleaned out, as it becomes necessary to do once in two years, the scrapings are either spread upon grass land or drawn to the barn to be worked into the manure heap.

But Mr. Shiftless thinks this is too much labor; says he raises pretty fair crops—20 or 25 bushels of corn, and from three-fourths to one ton of hay to the acre—without all this ado about manure; and Mr. Lazyman is of the same opinion. These gentleman take little or no care of the manure ordinarily made by their stock—in fact their cattle are generally so poor they cannot make much manure—but it is left to leach and wash away, and the little they put upon their land is not much better than turf rotted and applied without further preparation. And furthermore, they are not to be benefitted by the experience of others, for they take no agricultural paper. They read but little, and think less.

Another gentleman, Mr. Noddlefull, *knows* it won't pay, although he has never tried it. But he *knows* the sod is not worth for manure the labor of drawing to the barn and back again to the field. When he uses manure, he wants something that is manure—don't believe in adulterating his manure with *dirt*. But he occasionally sends to the city and gets a few hundred pounds of something that is probably *three-fourths* dirt, scented with night-soil, guano, or some other article to give it a *fertilizing smell*, for which he pays from two to three dollars a hundred; but he knows too much to adulterate his manure heap. Now this man is a hopeless case, for he does not believe in book-farming—although he does believe in patent manures—therefore he does not take a paper that treats upon farming, and it would be useless for him to do so, for, as his name indicates, his head is incapacitated for holding more. To these individuals, and others of like calibre, I have nothing to say—one knows too much, and the other not enough to comprehend the thing—but to those who have nothing better, and who really wish to improve the fertility of their land, or at least to have it remain *in statu quo*, I would say, just try this mode of increasing the manure heap—on a small scale, as an experiment—and if it proves as satisfactory to you as it has to me, you will be likely to follow it; and do not forget the pile for the slops.

The best way to handle the sod is with a dung-fork; it is easily loaded with this implement. When it is to be drawn a great distance, the better way perhaps would be to pile it near where it is taken out, and draw the manure to it, if it is to be used afterwards upon the same field, though I prefer taking it to the yard, as more of the liquid can be saved by using it there. Last fall I drew in one hundred two-horse wagon loads—twenty loads a day—and should have drawn more had the ground not been so wet.

Jefferson Co., N. Y. J. L. R.

[For the Country Gentleman and Cultivator.]

Letter from John Johnston on Feeding Cattle and Sheep.

G. W. H. asks my opinion on the comparative value of the following kinds of feed, at prices he names, for fattening cattle and making manure—say oil cake meal at $2.10, corn meal at $1.50, and wheat middlings $1.30 per 100 lbs. I am afraid I cannot answer these questions satisfactorily, but one thing I am sure of, the prices he names are far too high to make feeding pay at the price of beef, unless where farmers *must have manure*; and the time is fast approaching when every farmer must have manure, and good manure, or else an immense deal less grain must be sown, and the land rested; but then it must have a covering of grass or clover while resting, and how exhausted land is to be covered with either, without manure, I cannot tell.

I have no doubt that feeding cattle and sheep with oil-cake, corn, peas, beans, barley or buckwheat, and plentifully, although it may as often be at an apparent loss as profit, yet in the course of years may be profitable; and even if there was no profit on the stock highly fed, the increase of grain and grass will, *I am sure*, pay abundantly, and grass on highly manured land pays as well, or, I think, better than grain, unless it is corn. The high feeder of both *stock and land* is liable to serious losses in growing seasons by his wheat, and other small grains, lodging; but corn and grass have always been best when I manured highest, and I have, I think, had always the best crops when I fed most oil-cake. There is no doubt but it is by far the best feed for cattle and sheep for making manure, and at least part oil-cake, even at a much higher price than corn, may be profitable when fed with corn, and then it improves the manure, and I know it improves the sheep and cattle greatly.

Buckwheat, I think, is excellent to fat either sheep or cattle. When I buy feed from flouring mills I always buy bran; I am confident I get more value for my money in that than in any other feed they make. I have fed middlings, long ago, but I feel confident that bran is cheaper. It is, however, seldom that I do not find oil-cake and grain cheapest; but bran will start young lean cattle to grow, sooner than corn. Any kind of grain fed to stock will make manure at a cheaper rate than purchasing the manures of commerce, at least on our clay soils of Seneca Co.

But the great mistake with farmers generally, is, when they manure a field thoroughly, they keep tilling it as long as it will produce crops, and then they seed with clover and grass when, at last, it is apt to be so poor that it gives light crops, or no crops at all. It is only on land that is exhausted by raising grain that clover or grass seed don't vegetate; they scarcely ever fail on rich land.

Sheep and cattle fattening has not paid this winter hereabouts; I made the best sheep I ever owned, but they did not pay—reason, the sheep were bought at too high a price last autumn.

I keep swine only for home consumption, therefore can give G. W. H. no information on that subject.

Near Geneva, June 7. JOHN JOHNSTON.

[For the Country Gentleman and Cultivator.]

SUET PUDDING

One teacupful of molasses; one teacupful of sweet milk; one-half teacupful of dried currants; three teacupfuls of flour; one-half to three-quarters of a cup of chopped suet, or one half a cup of melted butter; one teaspoonful of salt; one of soda; one of ground cloves; one of ground cinnamon, and one-half a nutmeg. Mix well together, put in a buttered pan and set in your steamer. Let it cook three hours, and serve with sauce, or cream and sugar. If you like it richer, add half a cup of stone raisins and a little citron. T. J. N.

[For the Country Gentleman and Cultivator.]

June---Cultivating and Hoeing Indian Corn.

"How lovely, how charming has nature been made,
The hill in the sunshine, the walk in the shade;
The wild rose adorning the hedge with its bloom,
And loading the air with the perfume of June.
How green are the meadows, how bright is the morn,
How glitter the dew-drops on laurel and thorn;
How pearly and pure is the briar in bloom,
How lovely the flowers that blossom in June."

June, with farmers, is a very important month. The operations of the farm are now moving forward with great rapidity. Everything needs attention—aye, the *personal* attention of the farmer, who is calculatihg upon that success which ought to attend the labors of the husbandman. The seasons never tarry for those who are tardy in their manual operations. If we neglect to plow and sow in time, or to cultivate or prune at that season of the year which has been appropriated as the most proper time for certain operations, we must sustain the loss. The great wheel of Nature is revolving with unabated rapidity, and has brought us to the long and busy days of June, laden with rich beauty, with pleasure, happiness, and replete with cheering promises for the future. In the cheering promises of June, the faithful husbandman confidently rests his hope of a future harvest. When we look abroad over our fields, and see the young corn, and wheat and other grain spreading their wide leaves to catch the enlivening sunbeams, and the gentle showers of rain—when we see our bushes, vines, shrubs and trees clothed with beauty, and unfolding their petals and filling the air with their fragrance—when we behold our young animals, colts, calves, lambs, pigs, chickens and turkeys, just beginning to try their feeble limbs, to skip and sport and play, there is in them a cheering promise, which inspires us to hope for future usefulness or good.

June, as well as all other months of the growing year, brings her duties. Let us attend to them all in good time.

Cultivating Indian Corn.

During the greater portion of the present month, the plow, the cultivator and the hoe will be the chief implements in use on the farm. Cultivating Indian Corn and potatoes will occupy a good share of the time.

As hands will be comparatively scarce in many localities, it will be an important consideration to bring our horses into the operations of the farm as much as possible. One horse and a good cultivator, like Alden's Horse Hoe, will accomplish more in a corn-field than a score of hands with hoes, providing a skillful workman hold the cultivator or horse hoe.

There is something else required in cultivating Indian Corn besides simply driving a horse, and dragging a cultivator between the rows of corn. The idea is to stir up all the soil between the rows, and make it mellow, and at the same time cut up, cover up, and destroy all the weeds and grass, and not cover up any of the hills, nor the leaves of corn. Now, if the cultivator goes hopping and jumping along, the soil will not be half stirred up as it should be, and, consequently, the work will not be half performed; and if the cultivating is not done in a thorough and workmanlike manner, there will be so much grass, weeds, &c., to cut up with the hand hoe, that the expense of cultivating the corn crop will be very much increased beyond what is really necessary.

I have never had a workman in my employ whom I could not very readily learn to cultivate corn so much better than he was accustomed to do it, that he would acknowledge at once that there is some science after all in cultivating corn. Let us run over the details.

Of course it will be necessary to adjust the cultivator to run at the proper depth, and if horses of different sizes are used, the thills and traces must be adjusted to suit them. Now, have *very light* lines to guide the horse with, unless he is very "hard bitted." If the lines are heavy, and the horse rather tender in the mouth, most workmen will keep a horse all in a foam, and will not be able to cultivate half as well as they otherwise would, or as it should be done. If a horse is very tender in the mouth, and the driver rather rough and harsh, I have always been accustomed to make a pair of lines of strong twine. Those who have never used such light material for lines when driving a tender bitted horse would be surprised to see how differently a horse would perform than when driven with heavy lines. Let the lines be adjusted, as to length, so that they will pass around the workman's body. They should not be very tight, nor too slack. Now, grasp the handles of the cultivator firmly and drive the horse with the body, with the lines around it, by turning it to the right or left. To a a beginner it may at first appear a little unhandy and awkward; but after a little practice he will discover that he can drive truer, and worry a horse far less, with the lines around his body, than by endeavoring to drive with the lines in one or both hands.

Then here is another very important consideration. A great many men who are very poor teamsters will rein a horse, unconsciously, directly on a row of corn, and then abuse and jerk him by the reins because he goes where he was reined. But by having very light reins for driving, a horse that is very tender in the mouth can be guided with greater precision, and an ill natured driver will not be able to jerk him but very little.

Now, the workman should keep his eye on the feet of the horse, and the rows of corn each side of his feet, and on his cultivator, all at the same time. A little practice, with a determination to perform a job correctly, will enable him to do the work well. It is important to run the horse hoe as close to the rows of corn as is practicable and not root up nor cover up the corn.

If the rows are as straight as they ought to be, and the soil is in good condition, I think it is always better to run but once at each time of cultivating between the rows, and then go through the other way. But if the rows are not of a uniform distance apart, so close in some places that the workman must raise the horse hoe out of the ground lest he tear up a row of corn, and so far apart in other places that the horse hoe will reach but little more than half way from row to row, it will be necessary to run twice between the rows. Twice between the rows is not objectionable, only as it consumes time, in some instances, to little purpose.

When I was accustomed to cultivate corn, it was a rare thing that I touched the lines with my hands, even when turning around at the ends; and the horse would be turned around with so much precision, that he would not break down one hill in fifty.

The Way to Hoe Indian Corn.

Judging from the manner that a great many men work among the hills of Indian corn, we would suppose there were no roots, or that it needs severe root pruning. But the soil is full of roots, and they often extend from one to two feet from the hills on each side, and often fill the entire soil, and if a hand-hoe were struck in the soil near the hill, it would cut off a score of them. Now, if those roots were not necessary, they would not be there; and if they promote the growth of the plants, the plants will be injured by cutting them off. Some men, when hoeing corn, strike their hoes in the full length all around the hills, and dig and loosen the soil three or four inches deep, as close to the hills as they can work with a hoe.

Now, let the roots of a hill of corn be examined carefully after such treatment, and it will be seen that a good proportion of the roots have been cut off; and as a consequence, the growth of the corn will be retarded very much. So in plowing out corn, when the furrows are turned away from the rows, the corn is injured by severe root pruning, far more than we are wont to suppose.

I have known men to have small iron-toothed rakes, made on purpose for dressing out Indian corn with, which they would draw directly through the hills several times. Of course, every root that did not run in the same direction the rakes are drawn, would be torn in two, and in many instances whole hills were so much mutilated at the roots, that they would not recover from the injury received in several weeks. Indian corn needs no root pruning.

My practice in hoeing Indian corn is, to make the horse-hoe perform about all the labor. Of course we go over it all, and pull up all grass and noxious weeds among the

corn—not cut them up with the hoes, lest we cut off too many roots of the corn. When there is a lot of small grass or weeds among and around the corn, thrust in the hoe at least a foot and a half from the hill, and with a sudden jerk bring a large hoe-full of earth about the corn; and if it is performed skillfully, with a quick motion, but little earth will be necessary to knock over and completely cover up all small weeds and grass. The surface of the ground should be left as nearly level about the hills as is practicable. Boys, and some men also, will haul several hoe-fulls right up against the corn, and leave it there; and if the ends of the leaves should be buried in the soil, they pass on and leave them thus. This is decidedly wrong.

Hilling, against Level Cultivation.

The propriety, or impropriety of hilling Indian corn, depends entirely on circumstances; and it is important to know when it is best to hill it, and when it is *not* best to hill it. Under certain circumstances, more corn may be raised per acre by hilling it well, than by level cultivation, while under other circumstances the amount per acre would be greater by level cultivation.

Hilling Indian corn and other plants originated ages ago, before the surplus water was carried away from cultivated fields in drains; and it was found to be a great improvement in the cultivation of hoed crops to raise little mounds of earth for the hills, in order to elevate them above the soil that was thoroughly saturated with water. When the cultivation was level, the roots were obliged to stand almost entirely in the water, and of course the crops were amazingly small; but by forming ridges and hills, the roots were raised somewhat above the water, and of course the crop was increased in proportion to the dryness of the soil. But after farmers had learned some of the benefits of draining, their experiments proved very conclusively, that Indian corn rooted better, and would produce more grain per acre, when the soil was kept about level, than when thrown up into ridges and hills.

The conclusion then is, if the soil has not been thoroughly underdrained, where it is at all disposed to be wet, hilling Indian corn, potatoes, or any other plants, will be attended with decided benefit to the crop; whereas, on the contrary, if the soil is naturally so porous as not to need underdraining, or if it has been underdrained, level cultivation will be better than hilling, because a greater range is provided for the roots, and they will strike deeper and find and take up more nourishment, and of course a greater crop will be produced.

Some farmers have become so firmly attached to hilling everything, under all circumstances, that no argument can induce them to give up the plow, among their Indian corn, for the cultivator or horse hoe, nor to abandon hilling for level cultivation. I know some farmers in this region who will not use a cultivator or horse hoe, even if it were given to them, unless they could go through their corn again with the plow and hill it well.

I would suggest to such farmers that they experiment a little with a few alternate rows in hilling and level cultivation, in order to satisfy themselves more fully with regard to the merits of the modes of cultivation.

I have experimented, in years past, in hilling and level cultivation, and I am well satisfied that where the soil has been well drained, Indian corn will produce more per acre, and keep erect longer and better without hilling it than when it is hilled.

Brace roots are always sent out just at the surface of the soil, and if the cultivation is about level, they become rooted so firmly in the soil that they afford a stronger support to a hill than they do when they are on the top of a large hill or mound of earth. S. Edwards Todd.

To Keep Plows Bright.—The moment the plow comes from the field after use—for every good farmer brings his plow in after a a job is done, and does not leave it in the field—grease the bright mouldboard and other parts with any kind of cheap grease, which has no salt in it, or with lamp oil. The latter may be best where mice frequent, unless a little arsenic is worked in with the grease, which would soon settle all accounts with these vermin.

The Curculio---Small Fruits in New Jersey.

Having noticed some extracts from the proceedings of the Fruit Grower's Association of Eastern Pennsylvania, on the subject of the Curculio, and the means of preventing its depredations, in which I am represented in advocating the method of jarring off on sheets and killing, as saying "that a single tree the first morning afforded three hundred." I wish to correct an error in that report. The statement made by me was, "three hundred had been destroyed of a morning, and a less quantity for several days succeeding, until they entirely disappeared, and the result was from 30 to 40 bushels of luscious fruit,"—not from a *single tree*, but from all the plum trees on the farm, amounting to some 40 or 50.

It requires great vigilance here to secure a moderate yield of plums, from the ravages of the Curculio, which have also attacked the few pears that escaped the heavy frost; the Seckel, Bartlett, and others of the most certain bearing kinds, are generally punctured, and will produce but a small quantity of perfect fruit.

I have had my attention called to another insect somewhat similar and about one-fourth the size of the Curculio, darker in color, hard shell, and a long proboscis, preying upon the strawberry buds and blossoms by piercing the stem a little below the calyx, destroying in some places, from one-half to two-thirds the blossoms and small berries; yet from the large quantity planted, and the increased attention to cultivation, there will be a good supply of the fruit which is now commencing to ripen

Raspberries of all the leading sorts, have stood the winter well; are filled with fruit buds and making a vigorous growth of foliage, and give promise of an abundant yield.

Blackberries are doing well. The Dorchester being the earliest and most hardy variety, is now in bloom, and every hill in perfect condition. The New Rochelle, which is relied on for the main crop, has a much better show of fruit than last year, yet the vines in some places have not stood the winter well. The Cut-Leaved, or Rubus Lascineatus, is still later in ripening, perfectly hardy, and is making a fine show of fruit buds.

The crop of small fruits will go far towards supplying the deficiency in those of larger growth, such as Apples, Pears, Peaches, and Plums, all of which will be very scarce here this season. William Parry.

Cinnaminson, N. J., 5mo. 25th, 1861.

Cup Cake, Corn Bread and Baked Beans.

Mrs. E. D. Kendall of Reisterstown, Md., furnishes the following recipes to the American Farmer:

Cup Cake.—First of all get a tinner to construct a cake baker, as follows: Eight to ten tin cups, the size of an ordinary teacup, without bottoms, and flaring at the top. Have these soldered in rows to a sheet of tin, and the machine is perfected. By this means you insert into, and remove from the oven, all the cakes at once. Mine cost 31 cents, and has been used once a week for six years, and is still in good condition. For the cake, one cup of sour milk, two cups of sugar, one cup of shortening, a heaped teaspoonful of saleratus, teaspoonful of salt, and grate in half a nutmeg; add four eggs well beaten, and sift in flour, stirring to a stiff batter. Put one tablespoonful in each cup, and bake twenty minutes in a moderately hot oven.

Corn Bread.—The meal ought to be fresh ground, and coarser than that generally used. Take two cups of sour milk, teaspoonful saleratus, one tablespoonful sugar, one tablespoonful ginger, teaspoonful salt, half a cup of flour, and a tablespoonful of lard; add the meal, stir thoroughly to a stiff batter, and bake at once, in a shallow dripping pan, three-quarters of an hour.

Baked Pork and Beans.—Have nice, clean, white beans put in soak in cold water over night. Take a piece of fat side pork, parboil fifteen minutes; then place it in the pot with the beans, which ought to have been cooking an hour. Boil the pork and beans together until the beans are perfectly soft, then remove them with a skimmer to the dripping-pan, and make an island of the pork, in the center, having first cut the rind with a sharp knife a quarter of an inch deep, in delicate parallel lines. Bake three hours in a moderate oven, and serve hot.

THE ROSE-FLOWERING KETMIA.

In the grand series of vegetable life, there are families, several of the varieties of which attract attention chiefly by their ornamental value—as for example the *Gentianeæ*, which, sometimes of humble growth, and sometimes stately and vigorous in size, generally produce flowers of rare beauty and bright colors—or, again, the *Primulaceæ*, several kinds of which constitute in so great part the characteristic charm of the Alpine flora; or the *Ericas*, which furnish among others the numerous kinds of heath; also the Rhododendrons and Azalias, with their innumerable varieties, and so on. Other families, such as the *Cruciferæ*, the *Leguminosæ*, and above all the *Gramineæ*, play an important part in industry, and in the support of man and beast. But few families unite, like the *Malvaceæ*, plants of an immense industrial importance, as the cotton plant; of great medicinal value, as the mallow; and, at the same time, those which constitute rich ornaments in horticulture. This class, (the *Malvaceæ*,) finds representatives as well in the humblest of gardens, as in the most expensive hot-houses; for, thanks to their distribution over nearly the whole surface of the earth, many of them suit our climate very well. We shall probably interest amateurs fond of plants of easy culture, by recommending to them the Rose-flowering Ketmia, (*Hibiscus roseus*,) which possesses with great beauty, sufficient hardiness for cultivation here (in France,) in open air without fear of failure.

Although the *Malvaceæ* constitute one of the most cosmopolitan families in the vegetable kingdom, the number of their varieties and kinds is nevertheless much the more considerable towards the tropics, diminishing as we proceed thence to the poles. America is richer of them than the old world. The family has been divided into the Malope, Malvea and Hibiscus tribes, to which last belongs the variety shown in our engraving. It is especially remarkable for its large and numerous single flowers of a most beautiful deep rose, springing up from the axils of the leaves upon long peduncles articulated at the upper end, from which the fruit detaches itself on reaching maturity. The plant attains a height of between four and five feet. The engraving is drawn upon a scale of one-fourth the natural size.

For the above facts we are indebted to a late article in the *Revue Horticole*, which as noted above, recommends this plant for open air culture, stating that it has thus succeeded very well at the botanic school in the Jardin des Plantes.

Management of Sheep at Shearing.

When sheep are sheared, as soon as the fleece is off, take a stiff brush, dipped in a solution of salt and soap (whale-oil soap is best,) in water, and rub them all over with a saturated brush, which will produce a white lather or foam. This stimulates the skin to redness, and prevents the animals from taking cold; it loosens the scurf, and promotes the future growth of the wool, and also improves its quality. And the application is a sure exterminator of the vermin. For want of the brush, a woolen rag might answer the purpose. The application, if used, will be found productive of many good results.

C. J. ROBINSON.

Staggers in Horses.

A townsman, having a horse badly affected with this disease, the animal was bled copiously in the mouth when the attack was on. This was six months ago, and the staggers have not since returned. We do not recommend the remedy as a specific, but merely state the satisfactory result in this instance.

HAMPDEN.

[For the Country Gentleman and Cultivator.]

FARMING IN THE ISLAND OF JERSEY.

Messrs. L. Tucker & Son—I beg to offer a few remarks on Jersey farming, which doubtless will be interesting to some of your readers.

The high rent of land in this Island, renders it necessary to be very careful and economical in the management of all the details of cultivation, in order to get a living. The price averages from £4.10 to £10, ($22 to $50) per acre—the generality of good land fetching from £6.10 to £7, with farm house and offices. Those having farms near town employ them for dairy purposes, keeping cows for the supply of milk only. Those residing at a distance convert their milk into butter, the sale of which forms the principal item of the farmer's income. The size of the farms are from 2 or 3 acres up to 30. There are a few larger ones, but they mostly contain land of inferior quality, called *cotels*, or hill-sides, so steep that they are with difficulty worked with a spade, and then only in favorable spots. The soil is of a loamy character—no clay soils—the coast being nearly pure sand or granite rock.

The crops grown consist of parsnips, potatoes, mangolds, turnips and carrots. The rotation is made to extend over a period of five years, and is as follows: The surface of 3 year old grass land is broken up in the winter, and well manured, and in February the big plow is brought into the field; it consists of two plows, the first one being a small wheat plow to skim the surface into the trench, and drawn by three horses—then follows the big plow drawn by 8 or 10 horses, turning a furrow 18 inches wide and 18 or 20 inches deep, 12 or 14 men being required to level the surface a little, and dig the corners. The quantity of land turned in a day is 2 to 2½ acres. The land being prepared, is then planted in potatoes in 18 inch rows, or sown in parsnips. Fields too small for this method of plowing, are dug with a spade—they vary much in size, from a few perches, of which there are many, up to 6 or 7 acres—the latter would be considered a large field—there is not a 12 acre field on the Island. The parsnips are dug in November, the tops of this root being nearly as valuable for young cattle as the roots.

If the land is planted in potatoes, they are raised as soon as possible, in order to get a crop of turnips; these are sown in the middle of July, and are carted off during winter.

The land is then plowed for wheat, and sown down in clover and grass. It remains in this state three years. Many good farmers leave it only two years for the hay crop, tethering the cows on it in the spring of the third year, and then prepare for turnips, following this crop with potatoes or parsnips, and then wheat.

Any acre of land that has been well manured for the root crops, will yield from 10 to 12 tons of parsnips, 14 to 16 tons of Belgian carrots, or 40 to 50 tons of mangolds—(the weight of this crop would be greater if the leaves were not pulled for the cattle)—the cut of hay, first year's crop, if the clover has taken well, 4 tons. Second cut, same year, 2 tons. The second year it is only cut once, being fed off. The cattle are all tethered, being shifted several times during the day. The quantity and quality of wheat varies much with the season; the average of the island last year is estimated at 56 cabots of 32 lbs. each, per acre, though in some favored spots as much as 90 cabots have been obtained. The crop of wheat is generally better when the clover fails, as the wheat is often choked by the clover growing too strong. In some years the wheat does not average more than 40 cabots.

The manures used are dung from the yard, assisted with sea-weed—guano used principally for turnips, and a very little superphosphate of lime; but large quantities of sea weed are burnt, and the ashes used as top-dressing for wheat, at the rate of 7 quarters per acre, spread over previously to sowing the clover in May. The second and third year grass is manured with liquid from the tank, or covered over with sea-weed in the spring. With this latter treatment the grass is tender and sweet, and the cattle eat it very close.

The price of cows having the good points specified in the engraving* are about £25; but few, however, come up to that mark. The average of good cows is from £10 to £15 each—heifers a fortnight old realize £3 to £3 each, and heifers within two or three days of calving, say 2 years old, fetch £8 and upwards, according to the number of good points they possess, but the price seldom exceeds £20.

The quantity of butter given by a good cow is from 10 to 15 pounds per week during summer—in winter 5 to 7 pounds. Cows generally go dry six weeks previous to calving. During winter they are fed in-doors on roots, hay and straw. The parsnips are given to the milch cows; they increase the quantity and richness of the cream, the butter being of the best quality—care being taken not to give too many, as they are apt to dry the milk off. A judicious mixture of mangolds and turnips will prevent this. Preference is given to butter made in Guernsey and Alderney. In these islands it is made from the previous day's milking—in Jersey, generally speaking, it is made but once or twice a week.

Another item in the farmer's income, is cider, of which large quantities are made, the exportation amounting to some thousands of pipes annually. James Levesque.

We are much obliged to our foreign correspondent for the above interesting letter. He will place us under greater obligations if he will furnish us detailed accounts of the culture of the parsnip and the cabbage, which we believe are grown with great profit in the Island of Jersey.

FATTENING CATTLE.

J. Hale of Medina Co., O., remarks in *Field Notes*, that "most small farmers think they must sell their steers at 2½ years old, at from $16 to $22, at a loss of $5 or $10 per head, and sell the corn to feed them at 20 to 25 cents per bushel, and thereby impoverish their soil and themselves, notwithstanding they know or might know that the purchasers, at a cost of $5 or $10, double their money in six months, thereby appropriating to themselves all the profits and much of the labor of the stock grower. All because it is believed that it will not pay to feed in a small way."

There is no doubt that animals fully fattened, sell more profitably than those in fair growing condition, and that the money is made by the feeder, rather than the breeder, in most cases, of the sale of young cattle. This need not be so. Grain can be ground and cooked even on a small scale, at no great expense, and there is no imperative necessity of expensive fixtures and buildings, in order to fatten stock. We must make them comfortable, but interested and kindly attention will do that, with only rails and a straw pile for material, and without it, the best stables and fixtures are worth nothing.

NUTRITIVE EQUIVALENTS.—(PRACTICAL AND THEORETICAL.)

ARTICLES OF FOOD.	THEORETICAL VALUES.						Practical values, as obtained by experiments in feeding, according to						
	BOUSSINGAULT.				FRESENIUS.								
	Water in 100 parts.	Nitrogen in 100 parts of dried substance.	Nitrogen in 100 parts of undried substance.	Nutritive equivalent.	Relative proportion of nitrogenized to non-nitrogenized substances.	Nutritive equivalent.	Block.	Petri.	Meyer.	Thaer.	Pabst.	Schwertz.	Schweitzer.
English Hay,	11.0	1.34	1.15	100	.....	100	100	100	100	100	100	100	100
Lucerne,	16.6	1.66	1.38	83	.....	.....	....	90	....	90	100	100	....
Red Clover-hay,	10.1	1.70	1.54	75	1 to 6.08	77.9	100	90	....	90	100	100	....
Red Clover, (green,)	76.0	.....	.64	311	.....	.....	430	....	....	430	425	....	....
Rye straw,	18.7	.30	.24	479	1 to 24.40	527 7-12	200	500	150	666	350	....	267
Oat-straw,	21.9	.36	.30	383	1 to 12.50	445 5-12	200	200	150	190	200	400	200
Carrot-leaves, (tops,)	70.9	2.94	.85	135	.....	.....	....	300	....	....	....	....	....
Swedish Turnips,	91.0	1.83	.17	676	.....	.....	....	300	....	300	250	200	....
Mangold Wurzel,	.....	.....	.....	.....	1 to 7.26	391⅓	366	400	250	460	250	333	366⅔
White Silician Beet,	85.6	1.43	.18	669	.....	.....	....	....	....	....	....	....	....
Carrots,	87.6	2.40	.30	382	1 to 7.84	542.1	366	250	225	300	250	270	300
Potatoes,	75.9	1.50	.36	319	1 to 9.00	330 5-12	216	200	150	200	200	200	200
Potatoes kept in pits,	76.8	1.18	.30	383	.....	.....	400	....	....	....	....	....	....
Beans,	7.9	5.50	5.11	23	1 to 2.8	34 5-12	30	54	50	73	40	....	30
Peas,	8.6	4.20	3.84	27	1 to 2.14	34⅓	30	54	48	66	40	....	30
Indian Corn,	18.0	2.00	1.64	70	1 to 6.55	.....	....	52	....	....	....	59	....
Buckwheat,	12.5	2.40	2.10	55	1 to 6.05	93 5-12	....	64	....	....	....	....	....
Barley,	13.2	2.02	1.76	65	1 to 4.25	.....	33	61	53	76	50	....	35
Oats,	12.4	2.22	1.92	60	1 to 4.08	58 11-12	39⅓	71	....	86	60	....	37½
Rye,	11.5	2.27	2.00	58	1 to 4.43	58 1-16	33	55	51	71	50	....	33⅓
Wheat,	10.5	2.33	2.09	55	1 to 2.42	38 5-6	27	52	46	64	40	....	30
Oil-cake, (Linseed,)	13.4	6.00	5.20	22	.....	.....	42	108	....	....	....	....	43

* Boussingault.

Nutritive Values of Hay, Straw, &c.

MESSRS. EDITORS—Will you inform me by actual experiment, or otherwise correctly, of the comparative value of hay and the different kinds of roots, grain, straw, &c. A table showing the foregoing, if published in THE CULTIVATOR, would be read with much interest by many, as well as by myself. A YOUNG FARMER. *Mansfield, Ct.*

As an answer to this and many similar inquiries, we give the above table, which we copy in the present instance from Flint's Treatise on Dairy Farming. With some kinds of food, the results are much alike with all the different experimenters; with others, a great difference is observed. This difference is doubtless owing to the different manner in which the food was given, its quality or state of preservation, and the care in other respects. Some animals will increase twice as much in flesh as others with the same amount of feed, and this would also affect the results. The theoretical values, as obtained from analysis, agree very nearly in most cases, as they are not controlled by the accidents of feeding. This table will prove useful for reference, and will furnish valuable suggestions, although not mathematically reliable.

Shipment of Short-Horn Cattle to England.

☞ THE THORNDALE SHIPMENT OF SHORT-HORNS to England, to which we have heretofore alluded, has now taken place. SAMUEL THORNE, Esq., having returned from his recent tour abroad several weeks since, at once made preparations to send out the following animals in accordance with arrangements completed by him with several leading English breeders during his absence, and they accordingly sailed by the "City of Baltimore" a week ago Saturday, (May 18,) under charge of THOMAS GALBRAITH, herdsman to Mr. T. The list includes six bulls and one heifer, viz:—

Name.	Dam.	Sire.
BULLS.		
2d Duke of Thorndale,	Duchess 71st,	2d Grand Duke.
3d do. do.	1st Duchess of Thorndale,	Grand Turk.
4th do. do.	Duchess 66th,	Duke of Gloster.
5th do. do.	do.	Grand Turk.
Thane of Oxford,	Maid of Oxford,	do.
Imperial Duke,	Oxford 13th,	2d Grand Duke.
HEIFER.		
4th Lady of Oxford,	Maid of Oxford,	2d Grand Duke.
ALSO ONE BULL SOLD TO GO TO IRELAND, AND SHIPPED FROM NEW-YORK, APRIL 19th.		
Hero of Thorndale,	Lalla Rookh,	Grand Turk.

Here is an aggregate of eight animals which we shall spare with great regret from the Thorndale Herd and the Short-Horns of the country. But their exportation is by no means "carrying coals to New Castle;" for it is precisely such blood that is now in demand in England, where breeders have often regretted that the "Yankees," with such long purses and daring bids, should have succeeded in carrying off so many of the gems of the best herds. In the reigning confusion here, however, they would hardly have commanded the attention at present which their merits and lineage deserve; and we await with no less confidence than pleasure the verdict our British friends shall pass upon their breeding and "bringing up."

To have prophecied ten years ago that by this time we should be re-shipping Short-Horns to the mother country, would scarcely have been rated as a prediction of very great probability; and yet those who watched the succession of purchases made by Mr. THORNE, and his subsequent combination of the MORRIS herd with his own, were quite prepared for the occurrence of the present event. It is worthy of this particular notice for two reasons: as affording evidence in the alacrity of English breeders to procure these Short-Horns, of the genuineness of the estimate they placed upon what they have heretofore sold to us, and as proving to other countries, and to other parts of our own country, that as good Short-Horn stock may now be obtained here in our midst, as by going to the very district from which it sprang. And this foreign demand will not stop here, if our farmers do not wake up from the apparent lethargy into which they seem to have fallen just now; and by preparing themselves to pay with sufficient liberality for what it has cost so much enterprise and money in the first instance to import, *out-bid* the demands of breeders elsewhere. The history of Short-Horns in this country is a curious one, large prices and quick demand having alternated now and then with a time of comparative neglect—sure afterward to be deeply regretted and atoned for in prices still higher, and a demand still wider.

Nevertheless we can scarcely hope that any warning from us will be heeded at present, while all interests are comparatively swallowed up in the one great and justly engrossing question that involves our National existence. Still, if there are any who are inclined to think that "we already have 'improved blood' enough in our stock both at the East and West," and that consequently we may safely look on with unconcern when the transportation of our best begins,—we cannot forbear reminding them how few there are who yet pay any judicious attention to the character of the stock they are breeding, in proportion to the vast number who actually sell off their select animals to the drover and butcher as regularly as every year comes around, and keep only the "culls" at home to stamp defect and deterioration, instead of improvement, upon

coming generations! Is there no effort necessary to counteract the results that must inevitably follow such a course of procedure?

We desire, indeed, to have Improved Stock—whether Short-Horn, Hereford, Devon, or Ayrshire—accessible to the farmer at reasonable prices. And this can never be permanently the case, unless there is a demand sufficiently wide to encourage local breeders, who can in turn keep up their herds from such establishments as those of THORNE, ALEXANDER, SHELDON, and others in other breeds, without the cost and risk of importing for themselves. The truth is that farmers are to have a certain market, we believe, for all they can raise or sell for a year or two to come; and it is now, therefore, precisely the time in which they should avail themselves of whatever financial stagnation may elsewhere exist, to secure better farm stock of every kind. And we sincerely hope, if our friend at Thorndale makes any farther shipments to England, that his customers there may first have to out-bid a competition from our own farmers, as animated as our importers have always had to contend against at the great sales abroad.

[For the Country Gentleman and Cultivator.]

Effects of the War on Agriculture---Tobacco Growing.

MESSRS. TUCKER & SON—As during the *five years* at least, of the unhappy, un-civil, intestine war, already inaugurated in our hitherto prosperous and happy country, it is little likely that expenditures of either time or money for purely ornamental purposes will anywhere find favor among your rural congregation, I deem it advisable to adopt only the *utile* in all communications, leaving the *dulce* in the background until peace and prosperity shall again resume their empire over a UNION as wide as that so lately broken and demoralized by the machinations of fanatics and political demagogues.

It is a very common, but entirely erroneous supposition that the organizing of a large military force, such as New-York, Pennsylvania, Ohio, and other Agricultural States, have sent, or are prepared to send into the field, must necessarily interfere to a ruinous extent with rural pursuits. Of the levies already under arms from the three great Agricultural States above named, less than two per cent. of the whole force come from the farm; and were fresh levies to be called into service every year, equal in numerical force to those already in the field, and thus continue for ten years to come, the per centage taken from the cultivators of the soil would not reach twelve per cent.; not but that the agriculturists are every whit as patriotic, and just as ready to lend their aid in maintaining the integrity of the Union as any other class of men in our whole country; but so long as the exigencies of the case do not require their services in the "tented field," they argue justly that they are better subserving the true interests of the country and community by pursuing diligently their peaceful avocations.

Should it become a necessity to maintain the present war footing of the Federal Army for the term of ten years to come, there is no shadow of reason why the Northern Agricultural States should not maintain their quota of troops intact, and at the same time go steadily on acquiring wealth and prosperity.

In addition to the usual products of these States, which for years to come will find a ready market at advanced rates, there will, within another twelve months, be an imperious demand from abroad for another staple, which the region now supplying it cannot meet, but which the States of New-York, Connecticut, New-Jersey, Pennsylvania, Ohio and Indiana *can* meet to the fullest extent of the demand, and that too without materially interfering with their already established agricultural pursuits.

It has become a well established fact, that Connecticut can produce *Tobacco* of as good quality as can be grown anywhere in this country, and very generally superior to all other grown in the United States. And just as good tobacco as the soil of Connecticut will produce, can be grown in any other of the States enumerated; besides, even the best Connecticut staple may be greatly improved by proper culture and curing.

Tobacco is by no means the delicate plant or exhaustive crop it has been so generally represented and universally believed to be. The facts that it very frequently scorches to a crisp, in, or at the third planting entirely exhausts the light sandy soil of Virginia, or the obdurate clay of Eastern Tennessee, red as a burnt brick with peroxide of iron, do not argue in the least that such results will follow in the deeper, richer and more retentive soils of the above mentioned States; and as tobacco is a crop that, after coming from the seed-bed, may be made and housed in three months, it can be grown between spring and fall frosts as well in Connecticut or New-York as in Virginia, and as the preparation of the ground and planting out, comes in between corn planting and "haying time," and the cutting and hanging between wheat and corn harvest, it fills in those two leisure spells with most profitable employment.

Take the whole range of Northern territory above mentioned, and the average yield of corn the first season on newly cleared land, will not be above thirty bushels per acre. Allowing one dollar per bushel for the corn, and ten dollars for the fodder, and then deducting $15 for preparation, culture, harvesting and housing, and we have $25 as the nett proceeds of the acre. Planted in tobacco the first year, the average yield of fine leaf suitable for the Dutch or Russian markets, would be 900 lbs., which at the minimum rate of eight dollars per hundred, would give $72 per acre, while the stems and grade leaf, suitable for the German market, would always considerably more than pay all expenses of culture, curing and conveying to market. The second crop on the same ground, without any manure, would be five per cent. less. With suitable fertilizers at a cost of eight dollars per acre, and properly applied, the second crop would be increased ten per cent., and the third year the land would be in better condition to produce a maximum crop of corn than when first cleared.

There are portions of Connecticut, New-York and Pennsylvania, where, with proper management in culture, curing and sorting, tobacco every whit as valuable in any market as the celebrated staple of the *Vuelta Abajo* of Cuba, can be easily enough grown.

Being in possession of recent and reliable tobacco statistics, both foreign and domestic, and having considerable knowledge of the cultivation of the "weed" in Anferica, and elsewhere, I shall, by permission, have some further observations to make when next at leisure.

Baltimore Co., Md., May 27. R. C. KENDALL.

[We trust our correspondent will continue the subject as proposed; the readers of the COUNTRY GENTLEMAN in many localities are especially interested therein, and could not fail to profit by his treatment of it. EDS.]

[For the Country Gentleman and Cultivator.]

SWEENEY IN HORSES.

EDS. CO. GENT.—I have noticed in your paper, several articles upon the subject of Sweeney in Horses. Several different cures are given, but no one giving the cause of the disease.

Sweeney in horses is caused by diseased fascia that covers the muscles of the shoulder, which causes the muscles to shrink and perish. Any thing that will restore the healthy action of the fascia, or remove the dead fascia so that a new one can grow in, will cure the horse, and the muscles will soon fill out plump and full.

My remedy is to make an incision through the skin, about one inch long, at the point of the shoulder blade; loosen up the skin by inserting the finger, and work in about a tablespoonful of salt. In about ten days, tap the shoulder to let the puss out, wash out well with castile soap, and in a few days your horse will be perfectly well.

Cleveland, O. M.

[For the Country Gentleman and Cultivator.]

TOBACCO---QUID No. 2.

Editors Co. Gent.—Having in a previous communication shown that tobacco of a superior quality, can be successfully and profitably grown in several of the Northern States where it is not now produced; and that it can so be grown, without materially interfering with the production of the regular grain crops of the country; I will now by your permission, give a few plain hints relative to its culture, cure and manner of packing, and some brief statistics in regard to its foreign consumption and demand.

In almost all localities north of the Delaware, a hot-bed in which to propagate the plants, will be a necessity, and as the plants should have a two month's growth before transplanting, about the first of April will be the proper time for sowing. The seed should be sown thinly in order to produce strong, stocky plants. After corn-planting, prepare the tobacco-field by putting it in fine tilth as for corn and finish by turning two light furrows together, forming a moderate ridge, four to four and a half feet apart. Let the planting out follow the preparation as soon as possible, that the young plants may have a good start of all weeds and grass. The usual manner of planting out in the south, is to carry the plants in baskets from the seed beds to the field; and then, while one hand passing between two rows, drops them at proper intervals along the ridges, two others follow and plant them. This is a slovenly and injudicious plan, for as the young plant is very tender and liable to injury, quite one-fifth, taking the general average, suffer death by violence, or die a lingering death begotten of carelessness in planting, thereby rendering a second planting necessary, the expense of which is nearly equal to the first. A much neater, and far surer method is, for each planter to have a field-tub that will hold two thousand plants without crowding. Into this tub put four parts rich woods mold, three parts fine manure from the cow stable, and one part superphosphate of lime, the whole quantity being sufficient with the addition of water enough to make the whole into a rather thin mortar, to fill the tub to the depth of six inches. Place the plants carefully, roots downwards, in the tub as they are taken from the seed bed, and being transferred to the field, each planter having an ordinary water bucket with two or three inches of the above liquid in it, places therein as many plants as it will conveniently hold, and with a common garden "dibble" inserts the plants along the ridge two feet apart, exactly as a careful hand would transplant cabbages. By pursuing this course, and taking advantage of a cloudy day, not above one plant in five hundred will fail to grow.

By the time the first corn dressing is done with, the plants will be well set, and an interval of leisure is afforded for cultivation which is best performed by a wide cultivator running close to the ridge, being careful not to touch the plants. Any weeds or grass making their appearance close to the plants should be removed by hand.

The second cultivation may be given after harvest—a few days earlier or later, as convenient, makes little difference. Topping should be done with a knife, cutting the seed stalk and two of the top leaves with it, just before the flowers open. Cut the crop about the first of September, being particular that no frost touches it, as it will thereby be ruined. House it as soon as wilted, and by no means expose it to rain, dew, or more than a few hours to a hot sun, after being cut. Hang it on poles one foot apart, and the plants just clearing each other. Tiers of poles above each other far enough to allow the tops to swing clear of the butts below. If the tobacco house is well ventilated and dry, the crop will be fit for stripping in ten weeks, and should be done at odd times in damp, stormy weather. Assort the leaves into three qualities, and pack in bales or boxes, numbering according to quality.

I give here an extract from a letter lately received from a brother, for many years a resident in Russia. In writing of American tobacco he says:

"The cultivation of tobacco in Russia has been almost entirely discontinued, and hereafter the Empire must look to the United States for its supply, which for the last seven years has averaged 225,000 *poods* of 36 pounds to the *pood*. Not more than 460 *poods* are however shipped direct to Russia, the large balance being brought indirectly through England, Holland, Belgium, Prussia, and the Hanse towns. Why do not our tobacco shippers bring the material direct, and give American growers and vessels the benefit of the trade? Some small consignments of Connecticut tobacco have found a market in St. Petersburg, and established a character for the Yankee staple above that of any other growth ever imported into this country.

"As 'chewing' is not a Russian habit, there is no scale of duties that applies to that form of the 'weed,' and consequently we foreigners, who have acquired the habit at home, get our supplies at raw material rates. The average consumption of tobacco in the Russian Empire proper, is two and a half pounds per annum for every adult person, making a total of not far from 71,000,000 pounds, the excess over the imported from the United States, having heretofore been supplied from the Crimea, and Danubian provinces. This supply now failing, must be looked for in some other direction."

As the falling off in Cuba in the production of tobacco, is even more marked than in the hitherto tobacco-growing regions of this country, and as the demand is steadily on the increase, markets will of course rule higher, and if the people of the states mentioned in my former communication, are not within the next three years, prepared to supply the increased demand, it will not be because of their inability to do so.

R. C. Kendall.

[For the Country Gentleman and Cultivator.]

SEEDING DOWN LAND.

Messrs. Tucker & Son—How much seed shall I put to the acre? is often asked by those who are about to lay down land for mowing or for grazing, and have I seen in a back number of the Co. Gent. a reply by your esteemed correspondent John Johnston, giving his experience as to the quantity which, all things considered, gives the best return.

The amount, if I mistake not, is ten to twelve pounds clover, with four to six quarts of timothy seed, per acre. This amount of seed will give a good crop of hay in Maine sometimes, it is true, and probably in other places, but it will be very coarse, and it will take two to three years to form a good sod, simply because there is not seed enough to start roots enough to occupy all the ground. Formerly this amount was thought sufficient on new cleared land, though less clover and more timothy (*Phleum pratense*) was used, but on tilled land it was almost a stereotyped process as far back in boyhood as I can remember.

But enterprising and intelligent farmers are experimenting with various kinds of seed for forage, and varying the relative proportions, but generally increasing the aggregate amount per acre, and in nearly every instance the decision is that we have not used near seed enough to obtain the best result.

From the many illustrations at hand one man's experience will suffice to illustrate the necessity and advantage of using at least twice the amount above indicated.

Mr. C. T. Burnham, Strong, Me., a few years ago commenced experimenting with clover and timothy, and has continued till now, and for several years he uses not less than twenty-five to thirty pounds of clean clover seed, and four, six, or eight quarts of herds grass seed to the acre, varying it to suit the soil or its adaptation to each kind. He wants not less than thirty pounds clear clover for hay growing, or if to be saved to ripen for seed.

The result has been very encouraging. A few words will show its success. In 1858 a piece of land on which a young growth was cut off, burned over, sowed to spring

wheat, and seeded in the spring with the above amount of seed, gave, on 2½ acres, *nine* loads of fine hay, drawn by four oxen, in 1859, and on two acres of the same in 1860, four hundred pounds of clover seed per acre.

On land by the side of this, cleared, sowed and seeded at or in the same year by a neighbor, with eight to ten pounds of clover, and four to six quarts of timothy, and purchased by Mr. B. in the fall or spring following, there was not over two-thirds the amount of grass for hay, and this was, as he said, almost as coarse as raspberry bushes, while that with twice the seed per acre was fine and beautiful hay.

Mr. Burnham says the grass holds out in proportion to the above illustrations, where he has kept it in mowing, very generally; and, as far as he is able to judge, if used for grazing, produces feed in the same ratio, because the ground is more nearly all occupied at once to the exclusion of valueless and noxious weeds which are ever and anon ready to make their unwelcome appearance in our hard upland soil, to the exclusion finally of more succulent herbage.

The only rotation sod land like this gets is seeding, mowing and grazing as long as either will pay a fair return for the labor required.

Elm Tree Farm, Maine. O. W. TRUE.

[For the Country Gentleman and Cultivator.]

Does Keeping Poultry Pay?

Raising poultry for the table, and for the sake of eggs, is a branch of farming which, like every other branch, always depends on *circumstances*, or the manner in which the business is conducted, in order to make it a profitable or paying business. If fowls are managed properly, their eggs will sell for much more than the food which they consume; and if a farmer has adopted a judicious system of management with fowls, it will require but a small expense to raise two or three hundred nice fat chickens. But it would be folly to attempt to keep a hundred hens where only fifteen or twenty ought to be kept, and to feed their poultry as many farmers are in the habit of feeding them, so that some get twice as much as their stomachs can digest, while others can only get a few kernels of the scanty meal, it cannot be expected that they will flourish so as to return to their proprietor, a good compensation for his grain and labor.

I have seen people attempt to keep their hens on oats and buckwheat, by feeding fifteen or twenty of them about one pint of grain, twice a day. One of my neighbors, a year or two ago, invited me to look at his hens, as he feared he should lose them all. He said he had been trying to keep them on oats, but did not believe oats were good for them. He had about twenty lean, sickly things, which looked like starved crows. He said he could get only now and then an egg, and he could never have any success with poultry. To be brief, he fed them a pint cupful of oats, three times a day, which, when apportioned to them all, would be about enough to satisfy the first cravings of hunger.

We raise more or less poultry every year, and sometimes we have several hundred fowls, and I have always managed with them according to the preceding directions; and we sell every season more than eggs enough to pay for all the grain which they consume at a fair price, making no account of the chickens and hundreds of eggs which we eat. Poultry will pay well when they are properly managed.

Lake Ridge, Tompkins Co., N. Y. S. EDWARDS TODD.

[For the Country Gentleman and Cultivator.]

Cleaning Grain or Grass Seed.

In cleaning grain you can regulate the amount of wind from the fanning mill entirely, by opening or closing the two air holes on each side of the mill.

For cleaning wheat or timothy seed, you can turn with the same speed, if you shut the air holes according to the weight of the grain—i. e., the lighter the grain the closer the blinds must be shut.

In cleaning timothy seed you want the short lively shake, which you cannot get without turning rather fast, and by shutting the air holes *tight*, you cannot blow the chaff or seed out.

If fanning mill makers knew that, I think they would put blinds on both sides of the posts, or four blinds instead of two. I have put the extra blinds on my mill, and it works right. W. P.

RHUBARB WINE.

It is now pretty evident that there will be but a very light crop of currants in this section the present year, and consequently little or no wine will be made from this fruit. Perhaps a good substitute will be found in the rhubarb. Attention has of late years been drawn toward this article, and in England rhubarb wine has been made to a considerable extent. Comparatively few trials have been made in this country, but some persons have succeeded in producing a wine which has been favorably spoken of by those qualified to judge of the article.

It may be recollected that Mr. B. P. Cahoon of Kenosha, Wis., has been somewhat distinguished for the manufacture of rhubarb wine, a sample of which was sent sometime since to the Fruit Committee of the Massachusetts Horticultural Society, and was submitted for analysis to Professor Horsford, whose report on the subject appears in the Transactions of the Society for last year. Being unable to make room for the whole of the report, we take from it the following extracts:

"The wine has the hue of pale brown sherry, and a bouquet of taste which several connoisseurs of wine to whom it has been submitted pronounce to be peculiarities of the same wine. Some have perceived also a resemblance to Teneriffe. It is dry, slightly acid, and slightly astringent. It is clear, and free from sediment. Qualitative analysis showed the wine to contain alcohol, sugar, gum, slight traces of volatile essential oil, coloring matter, tannin, (?) free organic acid combined with potassa and traces of other inorganic substances, but no oxalic acid."

The following table exhibits the composition:—

Specific gravity	998.37
Composition in one hundred parts—	
Alcohol by weight, 13.15	13.15
Alcohol by volume, 16.56.	
Sugar	1.80
Free acid, assumed to be malic	.33
Potassa salt, assumed to be neutral malate of potassa	.33
Gum, coloring matter, and other organic matter	2.28
Inorganic residue	.07
Water	82.01
	100.00

A correspondent of the Wisconsin Farmer states that Mr. Cahoon made last year 3,080 gallons of wine from two acres of rhubarb. The process of manufacture is described as follows:—

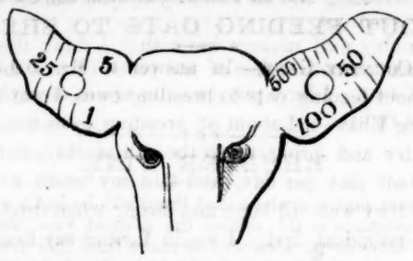
"Mr. C. uses Hickok's cider mill for grinding and pressing the stalks, the operation being very similar to that of making cider. The stalks should be cut into pieces from two to three inches in length. One man can grind 100 pounds of stalks in five minutes, and in twenty-five minutes more press out the juice. One hundred pounds of trimmed stalks, *twice* ground and pressed, will make ten gallons of juice. The wine is made by mixing water and sugar with the juice, in proportion of one gallon of juice, one gallon of water and seven pounds of sugar. In one instance Mr. C. cut 48 pounds of trimmed stalks from one root, which with the usual addition of sugar and water, made 14 gallons of wine. From one square rod of ground he cut 316 lbs. of stalks, and made 75 gallons of wine! The wine is said to sell readily at one dollar per gallon, which is less thon one-half what other kinds of equal quality are held at."—*Boston Cultivator.*

TEA CAKE.

One egg; one cup of sugar; one of milk; two tablespoonfuls of butter; one-half tea-spoonful of soda and one-half of cream tartar, and three cups of flour. Melt the butter and stir with the sugar; add the egg, the soda dissolved in the milk, then the flour and cream tartar, also a little salt and essence of lemon. This makes one good sized loaf. T. J. N.

Indelible Ink.

By placing a piece of lunar caustic in the end of a quill and whittling the same to a point, any cloth, being first slightly damped with water, may be written on so indelibly that no art can remove the color.



REGISTERING SHEEP.

Messrs. L. Tucker & Son—As the sheep shearing season is at hand, when most mark or number their sheep by notches or marks on the ears, and recollecting a few years since of seeing in the Country Gentleman, a plate representing the head and ears of a sheep with notches and holes in them, corresponding with the number of the sheep, but like many of your subscribers, I have not preserved my papers in file, and have lost all remembrance of the method. Will you please, for the benefit of your subscribers, again insert the plate and explanation.

Derby Line, Vt. G. B.

The above cut illustrates the German mode of ear-marking and regularly numbering the sheep belonging to a flock, so that each individual can be distinctly registered:

Each slit in the lower rim of the right ear represents,...	1
Each slit in the upper rim of the right ear represents,...	5
Each slit in the lower rim of the left ear represents,....	100
Each slit in the upper rim of the left ear represents,....	500
The central hole in the right ear represents,.....	25
The central hole in the left ear, represents,.....	50
In the above figure	
7 slits in the upper rim of the left ear, 500 each,.....	3,500
4 slits in the lower rim of the left ear, 100 each,.....	400
The central hole in left ear...	50
4 slits in the upper rim of the right ear, 5 each,.....	20
4 slits in the lower rim of the right ear, 1 each...	4
The central hole in right ear,.....	25
Number of the sheep,.....	3,999

[For the Country Gentleman and Cultivator.]

MILK FEVER IN COWS.

Messrs. Editors—In The Cultivator, vol. 9, no. 4, page 125, I see an answer by A Subscriber, to T. M. Benum of Clark Co., Iowa, in regard to the disease of cows after calving, in which I do not exactly agree. There is no doubt but that the cows Mr. Benum speaks of had the milk fever, as the disease invariably commences within two or three days after calving. The cow will first appear weak, staggering as she walks, eyes glassy, will not eat, and is in great distress.

I will give my opinion on the origin and treatment of the disease, as I have tried a great many experiments on it, and think that at last I am master of it. I have had several cases of it for the last few years, and have lost none. It originates in the calf bed. The cow being fleshy and full of blood and milk, and calving in hot weather, an inflammation arises in the part mentioned, which arrests all action of the blood, milk and bowels, and unless this inflammation is stopped, and a circulation got up, she will soon mortify.

My mode of treatment is as follows, and whoever tries it will effect a cure in nine cases out of ten. As soon as I see the cow has the disease, I take sacking, or other heavy cloth, lay it across the small of the back, and keep it continually wet with cold water from the spring, poured on by pails full. This will allay the inflammation until physic can be got to operate. Then take a handful of tobacco wet in vinegar, and bind it in the hollow of the head back of the horns, and keep it wet with vinegar, as the disease appears to affect the head very much. After this is done, commence giving physic—give one pound of Epsom or Glauber salts. This I think the best if handy, for it is cooling to the system; if not handy, take about two quarts of molasses and lard, each equal parts. After the physic has been down two hours and no operation, take a lump of chalk the size of a hen's egg, pulverize it fine, put in a quart bottle, and as soon as the cow is got in a position to give it, pour in one pint of good vinegar quickly, placing the bottle to her throat, and let it go down. If there is no operation in the space of three or four hours, repeat the last dose. Chalk and vinegar I know to be a harmless physic. Wait about half an hour, and if no operation, cord the neck and bleed about two quarts, which will greatly facilitate the operation of the physic. Give the cow all the while cold water to drink. After there is a circulation got, the cow must be fed moderately for a few days. Several cows under my observation, that had been milked for several days previous to calving, have had the milk fever, so I think it no preventive.

Prattsville, N. Y. E. M. BOUTON.

[For the Country Gentleman and Cultivator.]

CURATIVE TREATMENT OF GARGET.

Any one acquainted with the effect of Iodine on the human system, knows its tendency to produce an absorption of the mammæ. This potent drug is the most sure to produce uniformly certain effects for which it is indicated, than almost any other embraced in the materia medica, and it is chiefly employed in diseases of the absorbents and glandular systems. (*Vide* U. S. Dispensatory.) Premising here, garget to be a disease of the nature thus indicated, it at once theoretically appears that Iodine in some form, is the legitimate and proper remedy for this malady, and in practice such treatment has signally succeeded, when all the usual remedies had utterly failed in eradicating many of the most inveterate cases of garget. Numerous authenticated cases might be cited in proof of this, one of which is very conclusive and authentic, and which was reported some years since by Dr. Eben Wight of Dedham, Mass. The Doctor says:

"Some years since I met with a fine imported Durham on the way to the butcher, the owner parting with her in consequence of her being afflicted with the garget. Said owner had tried all the usual means of cure, after which he put her under the charge of a distinguished veterinarian, who, after a six-months' attendance, discharged her as incurable. Deeming her a good subject for a treatment with Iodine, and not knowing whether it had been used in the case, I purchased her at what she was worth for beef. At that time she gave but a few drops of milk at a time from one teat; the others had ceased to yield any—the udder and teats were swollen hard. I determined to make use of Iodine in the form of hidriodate of potash, being solvent in water, and if it failed to exhibit its effects on the system, I would resort to an ointment, (20 grs. Iodine to 1 oz. hogs' lard,) applied externally to the udder and teats. I commenced by giving 10 grains of the hyd. of potash in a tablespoonful of water, three times a day, mixed in a mash of shorts and meal; and though the dose was unusually small for a cow, still, as it was giving unmistakable signs of effect, I did not increase the dose. In seven days she gave milk freely from each teat, and in three weeks was discharged as cured."

Many other cases with like results might be cited, but the foregoing will suffice to invite attention to this mode of treatment, which I trust will afford much benefit to owners of gargety cows. Iodide, or more properly hydriodate of potash, can be procured at any apothecary, and dissolved in water so as to allow about 10 grains to each spoonful of water, giving this quantity for the first doses, and increasing the dose until it gives effect on testing the urine. The iodine, when introduced into the stomach, quickly passes into the secretions, especially the urine. It may be detected in the latter by first adding to the cold secretion a portion of starch, and then a few drops of nitric acid, when a blue or purple color will be produced. If this internal application of iodine should not readily succeed in removing the cause of garget, the attendant should have recourse to the ointment above mentioned in conjunction with such internal application. If this treatment be performed *secundum artem*, a *cure* will be the inevitable result. C. J. Robinson. *Richford, N. Y.*

HINTS ON CHEESE MAKING.

Prof. VOELCKER read at the last meeting of the Council of the Royal Ag. Society, a paper on Cheese-Making which will not appear in print until the next number of the *Journal*. But the editor of the Mark Lane Express, being present, "took notes," which perhaps was highly improper, but they are interesting and the following extract contains a number of valuable facts:

The opening fact was a suggestive one, as showing how greatly some further aid and advice was required. The manufacture of cheese, or ergo, cheese itself, is not so good now [in England] as it was five and twenty years since. And the Professor attributes this decline not to the use of bones nor the decay of our pastures, but to the echo of a want we uttered last week—that of a good dairymaid. In days gone by, the farmer's wife herself, if not, as she frequently was, her own dairywoman, had still an especial pride in its management. Now, however, she leaves such a part of the business of the farm more and more to her servants, and, as a consequence, with less care and cleanliness in its conduct. And cleanliness is above all things the first great golden rule of the art. The Professor dwelt on this at some length, demonstrating how the cheese might be utterly spoiled even before it was made—how painted pans and tubs should be avoided, as not to be trusted when washed with scalding water—though they do paint them in Cheshire—and so on. Then Then ignorance is often associated with idleness, while even where good cheese is yet manufactured, the dairywoman will be able to offer but little showing for what she does. Happy accident or established habit are her great landmarks; and it is here science tells very effectively in demonstrating directions for difference of temperature under different circumstances—preventives against cheese becoming sour—how it should be colored—and other points that the Professor will put in his own way. We may, however, venture to give some of the different degrees of temperature, as laid down with all the distinct emphasis of line and rule:—At below 70 deg. the curd remains soft and tender, at 60 deg. it takes 3 hours to rise, at 65 deg. 2 hours, at from 70 deg. to 72 deg. ½ to ¾ of an hour, at 90 deg. ¼ of an hour, at 120 deg. it runs "like toasted cheese." Thin cheese is spoiled at a high temperature; and in Cheddar cheese the curd rises at the temperature of 80 deg. to 84 deg. After the whey is separated you may raise the temperature from 95 deg. to 100 deg., but not higher. Milk coagulates at any temperature from 60 deg. to 130 deg., but at 135 deg. it ceases. Mr. Voelcker illustrated his discourse with a number of useful tables, showing the composition of different sorts of cheese, that no doubt will be published with the paper; while he was continually sending round samples of strong and mild, old and new, good and bad, for the yet more practical ordeal of touch, taste, and smell. But, alas for such advantages! there were scarcely twenty people present, and the majority of these were lords and landlords, who had come on the business of an adjourned Council Meeting. But, we may add, for the benefit of the outside world, on the authority of Professor Voelcker, that it is a mistake to suppose cheese will only "grow" in certain places; it may, on the contrary, be made on any description of land.—That for such a purpose bones improve all lands.—That food does not influence the flavor of the cheese so much as the different systems of manipulation.—That milk varies greatly in analysis, while it soon becomes tainted when the dairy is placed near to drains, pig-styes, or cesspools, and that cheese making under such circumstances is labor lost.—That milk should not be "soured" before the process of cheese-making begins, and that acidometers are of little use.—That the Cheshire plan of making the rennet day by day is not necessary, and the custom of the same district of keeping the cheese-room dark, close, and confined, is altogether reprehensible. The store-house must be thoroughly well ventilated, or the quality of the cheese must suffer. It is a wholesome sign to see a thinking *and* a careful man like the Professor attacking *mos pro lege* as strongly as we have intimated.

[For the Country Gentleman and Cultivator.]

ABOUT FEEDING OATS TO SHEEP.

EDS. COUNTRY GENT.—In answer to Mr. Daboll's inquiry about feeding oats to breeding ewes, I would reply by saying I have fed about 85 breeding ewes through the last winter and spring, up to the 4th of May, at the rate of one-half pint per day, and that my lambs never did better; they were all large and strong when dropped, requiring no aid at first. I would further say that I have lost but one lamb the present season, and that was owing to a deformity in its neck, which prevented it from drawing the milk.

Perhaps it would not do to feed ewes who were poor in the fall, at the rate Mr. D. fed his. My sheep were all in high order at the commencement of winter, at which time I began to feed oats.

As I have always been successful in raising lambs when the ewes have been rightly cared for, in the first place, I would state that I manage to have them come about the 6th of May, when the ewes are not fed with grain through the winter. By so doing, I can turn them to grass a part of each day for about two weeks previous to dropping their lambs. At the same time, I give them hay night and morning, and they seldom fail in having milk. They should be brought in every night, and in every rain-storm they should be put into sheds with plenty of room. Lambs never should go with a large flock until they are three or four days old, but should be confined in a small enclosure, until able to follow in large fields. W. M. C.

Hebron, N. Y.

MESSRS. TUCKER—Noticing an inquiry in the last Co. GENT., from your correspondent Mr. H. DABOLL, regarding the feeding of oats to sheep, I send you the following extract from a correspondent of the N. E. Farmer, which may throw some light upon the matter. W. J. P.

Salisbury, Conn.

The inquiry, "will unground oats hurt sheep?" also the statement that the Henniker farmers have lost a number by their use is truly a new idea. I cannot give the reasons which you ask for, in the affirmative; in fact, I know of none, and furthermore, it would be decidedly in opposition to my idea of oats as feed for sheep, which idea I have gained by conversing with Vermont feeders and growers, combined with the experience which I have had the past winter, that oats are admirably adapted to sheep. The Vermont feeders of sheep, with whom I have conversed, do not hesitate to say that their experience with different kinds of feed proves that oats will lay on more pounds of fat in a given time than corn. Also that it is much safer feed. I have also heard it remarked that sheep fattened on oats hold out better weight in market than when fed on corn. We are well aware, fellow farmers, that all kinds of grain should be fed judiciously, and at regular times; the latter to which particular attention should be given, in order to meet with satisfactory results.

[For the Country Gentleman and Cultivator.]

Cabbage Pests.

If "Cabbage Eater" will apply a liberal sprinkling of chloride of lime—say twenty-five cents worth, among five hundred cabbages, he will very likely rid himself and his favorite food of the "lice" abomination of which he complains. This is not, however, an infallible remedy, but a very general one. A certain preventive against lice, worms and "clump feet," is to saturate well with stale urine, during the winter, the bed to be sown with cabbage seed. This will insure strong, healthy plants, and a crop of cabbages free from disease or vermin. R. C. K.

Cabbage Eater will save his plants by putting a couple of tobacco stems around the stalk—not touching, but near it. My cabbages were nearly covered by lice last spring, and a few stems drove them off at once.

Berry Hill Farm, Westmoreland Co., Pa. A. W. FOSTER.

☞ Lists of Premiums, Regulations, &c., for the forthcoming Watertown Fair of the New-York State Ag. Society, can now be had on application at this office.

Inquiries and Answers.

Bone Manure.—I can get a ton (2000 lbs) of bones, for from $5 to $10, and as many more for nothing. Will it pay to *buy* and gather these to use on my farm, which is peculiarly adapted to grass, and also produces all kinds of grain well? Can they (the bones) be dissolved to advantage in lye made from wood ashes or potash, and how much would dissolve 100 lbs? Would *acid* pay as well or better than lye, or would it be better to pack muck or stable manure (horse,)as described in Co. Gent. of a recent date. "Tyro." [Bone manure, like all special manures, is somewhat uncertain in its operation—that is, its results are sometimes very satisfactory, and at others not, according to various controlling circumstances. As a general rule, however, it may be regarded as a very valuable fertilizer, and would be cheap at $10 or even $20 per ton, if manufactured for use. All estimates of this sort, must be indefinite—there is no mathematical precision in calculating the operation of manures and growth of crops, and never can be. The use of acid requires considerable skill and experience—we should prefer the mode referred to, as described in the Co. Gent., and not recommend lye.]

Solidified Milk.—Through the medium of your paper I would ask for information in relation to the modes and manner of putting milk into a concentrated form, either in the shape of paste or powder, and the advantages, if any, for a dairy farmer to adopt the plan? Is the outlay heavy in making the commencement, and is it under the restriction of a patent? What part of the country has been successful in reducing milk into a powdered state? Any information on the subject will be thankfully received. E. P. B. *South Hadley, Mass.* [Milk is solidified by evaporation, but we cannot give the details of the process. The object is to make it suitable to carry on long journeys or sea voyages, by preventing fermentation and rendering it more portable. We are not aware that there is any market for it, or that there would be any profit in introducing its manufacture into common dairies.]

Manure—Strawberry Runners.—Will you be kind enough to state what is the value, as a fertilizer, of manure that has been used in a hot bed? Also the proper manner to remove runners from strawberry plants cultivated in hills? Should they be pulled, pinched, or cut off, or is it immaterial? A Subscriber. [Hot-bed manure, if it has not heated too much and become dry, is rich and excellent. The runners of strawberries are to be merely hoed off in cultivation, or treated precisely as weeds, unless they are intended to increase for planting. Some varieties, as the Early Scarlet, will produce abundantly, even when the runners cover the bed with plants. Others, as Hovey, Peabody, and Triomphe de Gand, must be kept well cultivated, or in "hills," or rows. But all strawberries are larger and finer if treated in this way.]

Wind Mills.—Will you or some of the correspondents of The Cultivator, inform me through its valuable pages what the power of a wind-mill would be, whose diameter is eight feet, and having eight vanes, from twelve to sixteen inches wide. Would it be too heavy if the wheel weighed one hundred pounds? Where is Elgar's self-regulating wind-mill made? R. [Our correspondent may easily make his own calculations, by first ascertaining the surface of all the vanes in square feet, and then allowing one-tenth of a pound on the square foot for a light breeze, two to three tenths for a gentle wind, one pound for a brisk wind, two to three pounds when very brisk, and four to six pounds for a high wind. The wind-mill mentioned would be much too large and heavy for anything but a self-regulator—unless constantly watched, it would be soon broken to pieces. We do not know where Elgar's is made.]

Cabbage Lice.—In this locality for two years past, what are called in common parlance, "Cabbage Lice," have been abundant, and their presence has been most destructive to that excellent vegetable which they infest. They appear early in the season, and thrive until the crop is put up for the winter. When they make such an attack upon the growing plant as to crimple the leaves, the plant never will overcome the injury; although it may form a head and seem to look good, an examination will prove that it is *loosely* formed and unfit for use. Last year their ravages were quite extensive. I discover that they have already made their appearance this spring upon the "cabbage stumps" put out for salad. Now what will "cure or kill" these vermin? Is there a remedy, or must we stop growing cabbages? Give your readers a little light on this question. Cabbage Eater *Painesville, O.* [We hope some of our readers may be able to furnish the information desired by our correspondent.]

Seed Drill.—I write a few lines of inquiry concerning a grain drill for sowing wheat or other grain—whether one will operate in this section? I have never seen one in use. The land here is more or less supplied with stone, which might obstruct the operation of such a machine, damage it, &c. Andrew J. Chellis *Meriden, N. H.* [Bickford & Huffman's seed drill is perhaps the most approved and extensively used of any manufactured in this country—it is strongly made, and will operate on any land not too stony for the use of the common cultivator. The price is about $70 or $80, according to size, to which the cost of conveyance to New-Hampshire is to be added. We have known this drill for many years, and have witnessed its successful operation; and as a proof of its value may state that when first introduced the owners of machines offered to sow the crops of farmers for nothing but the fairly estimated increase of the crop.]

A Genuine French Zinc Paint.—*Eds. Co. Gent.*—I note the remarks to your "Zinc Paint Inquirer" in your valuable paper, and believing it is your desire to correctly inform your readers upon all subjects, I beg to make some suggestions:—The object of house painting is to preserve and ornament. The oil is the preserving quality, and the lead or zinc the ornamental. The Vieille Montagne Co.'s zinc, known as French white zinc, is superior to any paint known, in every respect. The reason is apparent, for lead will only absorb 40 per cent. of its weight in oil, while zinc absorbs 85 per cent.—here you obtain a better paint at the start; and in regard to coloring matter, it is so decidedly superior to lead as to need no remarks. Part of the basis of lead is sulphur, which only needs contact with the oxygen in the atmosphere to destroy it, and turn it yellow—hence the reason why a house painted with lead has to be renewed every two or three years; whereas with zinc, no gas known to chemists can change its color. Zinc applied to woodwork only half seasoned, will peel unless it receives a preparatory coat of gum shellac; it will also peel if painted in damp or wet weather. These are the only cases in which it will peel, if properly applied. The advantages of zinc over lead can be summed up in a few words, to wit:—French zinc is superior in every respect to lead or American zinc. It costs the same as pure lead, but absorbing more oil, it covers a fourth more surface, and is therefore 25 per cent. cheaper than lead. White French zinc will not turn yellow; and if properly applied will not peel, and will be as smooth as marble. For contractors it offers great economy, as it goes further; also to owners of property, on account of its durability. The only objection practical painters have to its use perfectly pure, is its durability. It lasts too long. Colors with zinc bases retain their brightness. I might enumerate other advantages of French zinc over lead, but enough for our feast is sufficient. Joseph M. Strong,
44 Greene-st., N. Y., Agent for the Vieille Montagne Co. of Paris.

Clover Seed.—How much clover seed does it require to seed an acre *well*, and does it succeed well with fall sowed wheat or rye, and should it be sowed at the same time as the grain and bushed in, or sowed on the snow in the winter or spring, as many sow grass seed? L. R. *Cedar Rapids, Iowa.* [Twelve pounds of seed are usually regarded as a good seeding—but fifteen or twenty pounds, by giving a close thick crop, would probably be more profitable. The young plants are liable to be thrown out by freezing, when sown in autumn, hence spring is preferable. It is commonly sown on winter grain quite early in spring, so that the crumbling process of freezing and thawing, combined with spring rains, may cover it. If the weather should prove unfavorable, it sometimes fails, and a light brushing would therefore be more certain in all cases.]

Free-Martins.—I have a pair of twin calves (a bull and heifer) of very choice Alderney stock, that I am desirous of raising—but having been told that twin calves will not breed I shall be obliged to you if you will inform me whether it is a fact or not? S. S. S. [The heifer, when twinned with a bull calf, is called a "free martin," and is most generally (but not invariably) barren; on dissection she may be found to possess some of the organs of each sex, but neither perfect. We never heard that there existed any difficulty with regard to the procreative powers of the bull.]

Lolling Horses.—I have stopped horses from "lolling" by using a common straight bit, and I think it will unless the horse does it from habit—by that I mean, the horses I have tried it on lolled, because their mouths were made sore during the process of bitting when broke to harness, or after. If a common straight bit does not answer, I should try one just

long enough to fit the mouth, with large bar, and perhaps it would be well to put on leather check-guards. Draw the bit snug up in the mouth, and use the horse a few times with a loose check-strap; after a few times using, I think there will be an improvement in the looks of the horse, as I have had two which gave up lolling after the first trial.

JAMES THOMPSON.

How to Kill Cabbage Lice.—In response to a recent inquiry in the Co. Gent., we publish answers contributed by several correspondents under the "Kitchen Garden" head. Since that part of our paper was in type the following has been received: "Boil old potatoes, and apply the water in which they are boiled to the plants, and the lice will disappear. If very numerous before the *first* application, a second may be required. I use a piece of sponge as the most convenient mode of applying the remedy.

Sunderland, Mass. T.

Draining.—Are underdrains beneficial in heavy clay soils, and what depth should they be dug? D. D. *Hancksbury, C. W.* [Underdrains are especially beneficial in heavy clay soils—even those that seem to be water-tight are greatly improved, the increased dryness causing cracks and fissures, through which the water finds its way, and thus an impermeable soil is rendered in some degree porous. The depth should not be less than two and a half feet. If too near the surface, turbid water will enter, and by depositing sediment, check the channel in the course of years. The depth should be at least three feet in lighter soils.]

Peat, Swamp Muck, &c.—What is the difference in the composition of "Peat" and "Swamp Muck"—what their comparative value as a manure for a sandy loam soil—best manner of preparing it? If composted with ashes, what chemical change takes place? Comparative value of leached and unleached ashes for that purpose? If composted with other substances, please note chemical changes. I hope some one who has time and understands analytical chemistry will answer in full and yet concisely. Practical knowledge alone also very acceptable. Let him who replies, recollect he speaks to thousands, and is deserving of many thanks. G. W. H.

Lunar Influence.—What effect has the moon on vegetation? or how does she influence the growth of vegetables generally? An answer will be thankfully received. J. F. Everhart, M. D. *Johnson Co, Kansas.* [We have answered questions similar to this on former occasions, and would refer to these answers. We may now briefly observe, that careful, continued registered observations, both in this country and in Europe, prove that the moon has no influence on vegetable growth, and philosophical reasoning corroborates these results.]

Farm Record.—It always affords me great pleasure to have an opportunity of benefitting my fellow laborers in our noble employment. Agricola, on page 320, asks, "Who among your thousand readers can testify of the excellencies of the "Comprehensive Farm Record?" I can say, for one, that I could not do anything at all if I had none. I find it the most useful thing I have. Every farmer should keep a record. This one is *complete*—no one should be without it.

River View Cottage. J. H. HUNT.

Lolling Horses.—I have cured my horses of this bad habit, by attaching a heavy wire to a straight bit, in such a manner that it shall extend in a curve from one cheek piece to the other, and lie just within the circle of teeth. It should swing rather loosely, with *limited* motion in the mouth. Care being taken to file off smoothly the cut ends—also that the wire does not crowd upon any of the teeth. New Haven.

Propagating the Raspberry.—How is the Raspberry propagated from cuttings? How old should the wood be? Of how many eyes should the cuttings be? Where can the seeds of the Paradise or Doucin apple be got? Young Horticulturist. [The Raspberry is propagated by cuttings of the root, and not of the stem. They are made about an inch long, slightly covered with a suitable mixture of sand and mould, and bottom heat given in a propagating-house or hot-bed The seed of the Paradise or Doucin cannot be had in this country. They are usually raised from layers or stools.]

Vegetation of Seeds.—How will I manage Mountain ash berries to make them grow—also arbor vitæ seeds, and magnolia glauca? J. E. *Davenport, Iowa.* [Mountain ash seeds must be washed from the pulp in autumn or winter, mixed with fine moist sand, and exposed to the weather. Early in spring plant them half an inch deep in very fine rich mould, shade, and water. Arbor vitæ should be planted in spring one-fourth or one-third of an inch deep, a very fine mould, and watered sufficiently, and shaded all summer. Magnolia seeds may be planted about an inch deep when fresh.]

Draining.—S. G., *Vermillion Co., Ind.* "French's Farm Drainage" will give you all the information required. We send it by mail post paid, for $1, but just now would prefer an Eastern bill or P. O. stamps, to western money.

Lolling Horse.—I have a mare who is all that she should be, with this exception: whenever she is on the road she lolls her tongue like an overheated dog. I have tried every means I could think of to correct this trick, but without success. Can you suggest a remedy? Westchester. [Can any one furnish a remedy?]

[For the Country Gentleman and Cultivator.]

USEFULNESS OF BIRDS.

The birds are laborers. How much travel, how much of investigation is required of a bird to find even the little sticks with which is framed the outer wall of the nest? One stick at a time is to be found, selected, carried and so placed upon the limb of the tree or elsewhere, that a sudden blast of wind shall not disarrange them, and so of the inner lining of the nest. What a circuit of country has to be gone over? What a sharp lookout has to be kept to find and carry one hair at a time for the birds' nests of even one neighborhood? And so we might speak in the detail of the skill, industry and labor necessary to make into a nest this great amount of building material. Now, let any man dwell upon the amount of labor that God has appointed birds to do, and along with it His declaration that birds are not to sow, or to reap, or to gather into barns, and he will be convinced that the provision for their being fed is neither the grains of the earth nor the fruits of the field. When birds perform their greatest amount of labor, and hence require the greatest amount of food, neither earth, or shrub, or tree, has either grain, or berry, or fruit. Where then is the provision made for feeding this army of little laborers? Where? Why, in the worm that is gnawing at the root of vegetation; in the grub that is making of naught the labor of the planter; in the millions of insects that are destroying, in the bud and the flower, the promise of the fruit tree; in the *larvæ* or egg deposited in the bark of the tree. Now, see you not that he who destroys the birds of the air; that he who breaks in upon and breaks up their industrial or domestic arrangements; so far forth does what he can to prevent the husbandman from receiving the reward of his labor, lessens the product of the crop he plants, of the field he mows or harvests, and of the fruit tree that he rears?

What makes the meadow present so many dead spears of grass? It is because the birds are not permitted to destroy the worms that feed upon its roots. What makes the *borer* so destructive in the orchard? It is because the bird has not been permitted to destroy the insect and the *larvæ*. Think you the *curculio* would so extensively injure the plum tree, had the horticulturist remembered that among other things to be protected were the birds if he wanted fruit? Not a bit of it. There was a neighborhood in Europe where, by bounties, they succeeded in expelling birds. The result of that expulsion was, the destruction of their meadows, of their grain fields, of their gardens, and the loss of their fruit. They found that the presence of birds was necessary to successful husbandry and horticulture. B. N.

Bethlehem, May 28, 1861.

☞ The Oregon State Ag. Society has published a schedule of Premiums for its first Annual Fair, to commence on the first of October, 1861, and continue four days. The place of holding the Fair has not yet been determined. The premiums are very liberal, and amount to some two thousand dollars.

Rye and Indian Griddle Cakes. — To one cupful of corn meal, two cups of rye flour, one egg, a little salt, and three spoonfuls of soda and cream tartar, one of soda and two of tartar, make a batter the same as for buckwheat cakes, and bake on a griddle.

ALBANY N. Y., JULY, 1861.

☞ The Agricultural Society of Holland is to hold a general trial of Haying Machines and Implements, including Mowers, Hay-makers, Horse-rakes, Carts, &c., during the first half of June, on the Harlem "Polders," near the Vogelenzang station in North-Holland. — — — A meeting was held at Frankfort, April 15th, called by a large number of leading agriculturists, to organize an "Agricultural Union" for the South-west of Germany, including the territory in which that city is situated, the two Hesses, the Duchies of Nassau and Baden, Bavaria and adjoining Prussia. It was modeled after similar organizations already existing in eastern Prussia, Saxony, and north-western Germany. — — — There is, beside the foregoing, a "Society of German Agriculture," embracing the whole country, which held its first session Ap. 5, at Erfurt in Prussian Saxony. This meeting does not appear to have been very largely attended, only about 70 members having been present, including, however, a number of eminent men. An exhibition was determined upon for the coming summer, to take place probably at Frankfort-on-the-Maine, and there was a lively discussion as to whether competition should or should not be open to English Implement Makers. — — — Agricultural instruction in Prussia is still farther extended by the establishment, announced in the *Gazette de Cologne* of March 19, of another Agricultural School, at Annaberg in Rhenish Prussia —in a district very fertile, and a locality very conveniently situated. The inauguration of this School had already taken place; it is intended exclusively for the instruction of the sons of rural proprietors, the number of pupils is limited, and the course is to be of an exceedingly practical kind—the students performing farm-work of every sort, and "gaining their bread by effective labor as if they were at work in ordinary farm service." — — — The Agricultural Journals of Germany can almost be counted by the hundred; it therefore results, remarks Mons. BARRAL, "that most of them have very few readers and very little influence." A large number of them were therefore discontinued at the beginning of 1861, and combined with an old established journal, hereafter to be published weekly instead of monthly, under the title of the "Agricultural Annals of the Kingdom."

☞ As the Season advances the probability of a continued demand abroad for all our surplus Breadstuffs increases rather than diminishes. The Mark Lane Express of May 13, reports harsh, drying winds and frosty nights during the previous week, checking vegetation quite seriously:—"Even the Wheat which has borne the weather best still looks the worst among cereals; although there is a serious failure as regards Beans in some localities, partly traceable to the badness of the new seed. As the season advances, there is therefore less of promise in its aspect, and though a sudden change to warmth with light rains might do much to make up for arrears in point of time, *a good or even average yield of Wheat would be next to a miracle.* Still there are some early planted pieces that look as well as could be desired. Forward Potatoes have been nipped by the frost. The grass has been seriously checked, and made scarcely any growth for a fortnight, and the price of store cattle has been reduced as a consequence, while the demand for Cake and dry food has been enormous. *Nor has this untoward weather been peculiar to our own shores.* France and the more northerly countries have felt its chilling effects, and more firmness in prices has resulted generally. Our own Wheat trade, though very stagnant at the opening of the week, eventually evinced more tone; but in the South of Europe, beginning with Odessa and proceeding through the Mediterranean, business has languished so far as the north of Spain, where the crops as well as in Algeria are making fair way."

☞ The Mark Lane Express announces that his Royal Highness Prince ALBERT has consented to act as President of the Royal Agricultural Society for next year, when the Great Show will be held in Regent's Park, London, in connection with, or during the Exhibition of the Industry of All Nations.

This is a matter, of less interest of course, in this country than in England. But it still seems worth particular mention, because, as the Journal just quoted aptly remarks, it is "no empty compliment" on either side. The high position of the Prince, not less than that of the Society, have only rendered it matter of surprise to a foreign observer, that the first honor in its gift should not sooner have been offered for the acceptance of one who has so uniformly done so much to add to its exhibitions, and whose rank *as a Farmer* is probably second to that of no other proprietor in the Kingdom.

It chanced that early in July, 1859, it was the good fortune of the present writer to visit the Farms carried on by Prince ALBERT at Windsor, with a party consisting of three or four members of the Council of the Society in question, by whom, after the sight-seeing of the day was over, the eminent fitness of his Royal Highness for the Presidency, was alluded to in conversation, and an informal nomination unanimously carried. It is this visit, doubtless, to which allusion is made in the following extract from the *Mark-Lane Express* article—to which we may add, as matter of interest to Americans, that the "new grass-cutter" referred to as then on trial, was a Wood's Mower, manufactured in this country. Our contemporary says:—

"The world already knows of his Royal Highness' success as an exhibitor of stock; but it is not every one who has had the delightful privilege of inspecting the Park Homesteads at Windsor, or of seeing and hearing how thorough an interest both her Majesty and her Consort take in the different phases of the Home, the Norfolk, and the Flemish Farms. With an enlightened and enlarged mind well fitted to his position, the Prince gives everything in any way worthy of his attention a fair trial. We see this alike in the breeds of stock he cultivates and the different descriptions of machinery he employs. There are those first favorites, the little Devons at one farm, the Herefords at another, and the Short-Horns at a third; with, moreover, an especial place for the dairy. The day on which we had the pleasure of going round, there was a new grass cutter on trial; while one of Smith's steam cultivators has been at work at Osborne, and another of Fowler's at Windsor. Both the Queen and the Prince make it their care to see such inventions well tested, and the Royal pair are equally zealous in marking the improvement of the animals. The Prince is known to be a capital judge, and there is not a beast but that he has the history and value of at his command. With, then, his great abilities and natural predilections, we may repeat that his Royal Highnesses' acceptance of the President's chair should inaugurate a great year for agriculture. It will be the especial duty of the Society to make this worthy of him. There is an *eclat* already attached to the Meeting, that needs but careful cultivation to grow and thrive as time progresses."

☞ The following extract from a private letter under date of June 5th, expresses, we presume, the common sentiment in Agricultural circles upon the subject to which it refers:—

"I spent a few days at Washington last week; and in common with every true friend of agricultural improvement who has heard of it, was much mortified to find that the Commissioner of Patents had sent to Europe to purchase seeds, and obtain information about wine, grapes, wheat, &c., that notorious individual, who was shown, when connected with the Patent Office before, under President Buchanan, to be such a humbug that the weight of public opinion forced his removal. You are no doubt acquainted with his antecedents, and among others his

plagiarism of whole pages entire from English works. I do not wish my name used in this connection, but having found out at Washington that this same man has really been sent abroad, *to the discredit of the administration and the country*, I think the agricultural press should speak out in condemnation.

"An editorial on the subject in the COUNTRY GENTLEMAN, would no doubt call attention to it, and perhaps induce his recall."

We regard the system of seed distribution by the U. S. Government—at least as, hitherto, it has always been conducted—as little better than a fraud upon the public Treasury, and upon the Agricultural community at large. We had but lately learned of the appointment alluded to by our correspondent, an appointment which accords so well with the previous history of this whole business, that it almost seemed, either a work of supererogation on the one hand, or an absolutely hopeless task on the other, to discuss the subject as it deserves.

☞ A contemporary (the Hartford Homestead) appropriately suggests that this is a year when we "cannot afford" to expose any crop to risks which it is possible to avoid. It therefore reminds the farmer that HAY CAPS may save what constitutes one of his most important sources of dependance, the supply of the winter's food for his live stock. To which we may add that if the season, as it advances, continues to include as much showery or "catchy" weather as it has done already in some localities, the importance of having Hay Caps will be duly appreciated before hay-making is over. We quote the following directions for making them:—

"Fair quality sheeting, four feet square, with cords and pins in the corners, washed with salt whitewash, is all that is necessary. It is not worth while to hem the edges, though perhaps caps thus made are better—stronger and less likely to tear. A careless hand sometimes will jerk them about so as to tear them, but if two edges are protected by a selvedge, it is commonly enough."

Farmers sometimes overlook the difference which exists in the quantity of grain they can dispose of, in a season when the pasturage is good all along, the hay all well got in, and the cornstalks nicely cured,—and a year when feed is scarce and poor. The vast stock of grain we have to sell abroad at the present time, is owing to the fact, not only that the grain crops here were generally heavy, but also that the supply of feed was almost universally very large; and the quantity of wheat and corn we shall be prepared to export after the next harvest, will be materially affected by the quantity and quality of the fodder we are able to cure during the coming summer and autumn.

☞ DICKENS has naturalized in the English language a phrase expressive exactly of the energy of many members of Agricultural Societies, as well as of government officials—How Not to Do it. But the Council of the Royal Agricultural Society, anxious to have members chosen who will attend its meetings, have devised a way *how to do it*, singularly simple and efficient. A table was published in the Agricultural journals, several weeks in advance, giving the names of the 25 members whose term of office was to expire May 26, together with a statement of *the number of meetings at which each has been present*, during the past two years—thus showing at a glance who will be likely enough to attend to duty hereafter, to be worthy of re-election, and who may be advantageously permitted to retire to private life. Nevertheless, in accordance with the usual conservatism existing in such bodies in England, the whole number will be re-chosen, excepting the two or three who decline for personal reasons; and the only effect accomplished, is, perhaps, that of prompting delinquents to better behavior hereafter. Of all the list of 25, we observe that none have had so frequent calls upon their time as Col. the Hon. A. N. HOOD, who also occupies, among other responsible trusts, the post of Superintendent of the extensive farms of his Royal Highness, Prince Albert; and none have responded to these calls with anything like so great regularity of attendance—being 55 out of 59 committee meetings, and 13 out of 15 monthly councils.

WHEAT CROP.—During a recent journey through portions of Southern Pennsylvania, the wheat crop generally presented a promising appearance. The growth was uniform, and did not exhibit the numerous bare patches observed in some of the best wheat districts of New-York, where, on heavy or strong soils which have not been underdrained, much has been winter-killed. The only drawback of the Pennsylvania crops was the unusually short heads, but there will probably be a good average crop. Corn was small, many fields having been replanted, but if the weather in future prove favorable, there will be nothing to fear. We are inclined to the opinion that if farmers of that, and of regions of a similar latitude, should plant varieties somewhat smaller and earlier, and correspondingly thicker, they would reap a decided advantage in several respects, although the growth might not make so much show. J. J. T.

WATER RAMS.—We recently had the pleasure of spending a few hours at the fine rural residence of SAMUEL RHOADS, Esq., in the western suburbs of Philadelphia, where among other matters of interest, the successful use of the water-ram for a long period, is worthy of notice, especially as there has been some controversy lately among our correspondents, as to its permanent value. The one we here allude to has required no repairs during the twenty years it has been in use, except an occasional renewal of the valve. It raises water forty-five to fifty feet elevation, to an amount of many hogsheads a day, the supply being furnished by a spring, filling an inch driving pipe. At first some difficulty resulted from this pipe not being strong enough for the pressure, but this was easily and permanently remedied. Force pumps, worked by hand, were employed before the erection of the ram, but the latter has been found a great improvement on the score of convenience.

NEW-YORK STATE FAIR NOT POSTPONED.—A notice in the Knickerbocker this morning, that the New-York State Ag. Society will not hold a State Fair as usual, is the first intimation I have had on the subject.

The Executive Committee intend to hold the Fair as usual, and all the usual arrangements are being made—and the prospects are favorable at present for a good exhibition. The mistake came from the postponement of the Trial of Implements. B. P. JOHNSON, Sec'y.

Ag. Rooms, June 3d, 1861.

BOILING VS. GRINDING INDIAN CORN, BUCKWHEAT, &C.—In reply to an inquiry about grinding Indian corn for cattle-feeding, a correspondent of the North British Agriculturist states that during last winter he had used it boiled, after having been steeped forty-eight hours, and that he found it answered well, both with hogs and fattening cattle. In partial confirmation of the advantage of boiling *some* grains, we may state that peculiar circumstances having led us to employ buckwheat one winter, in preference to other grain, we adopted boiling as the preferable mode of preparing it for feeding; and that, judging principally by the quantity and quality of the milk given by the cows, and by the condition maintained by them notwithstanding an unusual flow of milk, we were persuaded that an equal value of no other grain, at average prices, would have been at all likely to have yielded an equally profitable result. A.

MEASURING A HAY MOW.—I have just measured and weighed a mow of hay. It was two-thirds clover, and one-third timothy, coarse and rather ripe when cut. It then got wet in the cock, was spread, and got very dry, then pitched into the mow with a horse fork; I think it does not pack quite as close for that, and after the mow was settled it was 10 feet deep, (no pressure on the top.) Size of mow, 12 by 26 feet, and 10 feet deep—equals 3,120 cubic feet, which, divided by 5.68, (number of tons,) is equal to 549 cubic feet for a ton. W. P. *Oswego, N. Y.*

☞ *Westchester, Penn., June* 13.—After a day spent in making quite an extended circuit to the north and west of this place, I can report the prospect of the crops, so far as I have seen and heard, in this part of the State as generally good. We have passed many excellent wheatfields, of which I shall have more to say hereafter; this grain, although it has sometimes been thicker on the ground, is well along for this time of month, and the heads are of good size—a full yield is anticipated. Corn is backward; the best fields we have seen in *evenness* were not more than from three to four inches high, but we noticed one on the Brandywine Flats where now and then a few hills were somewhat more advanced. Oats are looking pretty well, and I believe not much behind. Some clover fields were much injured from freezing out last winter, but grass is generally good, and on one farm we passed hay cutting had already begun, although apparently in a not very extensive way.

Strawberries are in their prime here; there will be some apples, but other fruit is mostly destroyed by the winter. Green peas are ready for the table, and in ordinary seasons some new potatoes might have been ready to dig. Those that were planted early this year were cut down by a frost in April, when the thermometer fell to 28 deg.

The day has been a beautiful one for an excursion into a beautiful country—not so oppressively warm as two or three that had preceded it, but still bright enough, and the sunshine sufficiently powerful to bring the corn well on. My notes will bear keeping another week, and after a few days more among the excellent farms and farmers, for which Chester county is so widely noted, I shall be able to speak more understandingly of its Agriculture than I could at present. The Agricultural Society's Fair Grounds at this place are now occupied as a Military Encampment, and I am writing within sight and sound of so much to remind me that the "genius of war" is abroad in the land.

L. H. T.

☞ The Annual Show of the Ayrshire (Scotland) Agricultural Association was held at Ayr, April 30, and, as last year, the MILKING COMPETITION was regarded as one of its most important features. This was conducted as follows:—The six competing cows were taken to the Star Hotel coach-house, at Ayr, on Thursday evening, to be milked under the superintendence of the judges, preparatory to the competition on the mornings and evenings of Friday and Saturday—no restriction whatever being placed upon exhibitors in regard to the keeping of their cows. The following is a statement of the quantities of milk yielded, and the weights of butter churned from the milk:—

Cow belonging to	Greatest Milking		Average of Four Milkings.		Weight of Butter.	
	lbs.	oz.	lbs.	oz.	lbs.	oz.
A. Wilson	27	12	24	3½	2	2
J. Hendrie	26	0	24	5	2	1½
W. Reid	25	7	20	8¾	2	9
W. Reid	30	15	27	5½	3	6½
R. Wallace	28	14	28	8½	1	9½
R. Wallace	25	5	23	8¼	1	15

The judges gave the first prize for "the greatest weight of milk at four successive milkings" to Mr. Wallace, and the second to Mr. Reid; the first prize for "the greatest value of butter from the said milkings" to Mr. Reid, and the second to Mr. Hendrie. It will be thus gathered that the greatest weight of milk, even in cows of the same breed, did not make the most butter; but that an inferior milker more than "doubled" the heaviest of the pail when they came to the churn. In estimating the qualities obtained, the Ayr Advertiser, in a very complete report of the meeting says: "The average milking of the prize cow last year was 26 pounds 5 ounces. The increase of this year is probably owing to the cows having grass. The quantities are very large; but greater milkings were yielded by the same cows for several days before the competition. The change of place and the disturbance are injurious to the animals. Mr. Reid's cows in particular seemed to suffer from restlessness. Mr. Wallace's prize cow was very steady, her greatest variations at the four milkings being from 28 pounds 14 ounces, to 28 pounds 3 ounces."

The curious fact that the cow which gave the most milk and cream, should have given *the least butter*, was entirely unanticipated from anything shown by a chemical analysis of the milk, made by Prof. Anderson, and is only to be explained, perhaps, on the ground that in this case "a great part of the butter must have run away with the buttermilk." The paper above quoted gives the following details, which also throw some light upon the difficulties of the case:—"The milk was all 'lappered,' as it is termed in the neighborhood of Glasgow, instead of the cream being separated from the skim milk and churned by itself. The morning milk each day was cooled and mixed with the evening milk in the lappering dish. A little buttermilk was added, to hasten the acidulation. It remained in the dish till Monday, the time appointed for churning. People who follow this method of butter-making are aware that when the lappering is insufficient, less butter is obtained. At the competition the same time was allowed for all; but it is probable that the milk of some cows may require a longer time than the milk of others."

A COMPLETE PRONOUNCING GAZETTEER, or Geographical Dictionary of the World. Containing a Notice and Pronunciation of the Names of nearly One Hundred Thousand Places. With the most recent and authentic information respecting the Countries, Islands, Rivers, Mountains, Cities, Towns, &c., in every Portion of the Globe. Including the latest and most reliable Statistics of Population, Commerce, etc. Edited by J. THOMAS, M. D., and T. BALDWIN, assisted by several other gentlemen. Philadelphia: J. B. Lippincott & Co. 1861.

This work has now been some little time before the public—uniformly receiving, so far as we are aware, the highest commendation for its fullness, accuracy, uniformity, and many valuable features not to be found, at least in so great a degree, if at all, we believe, in any other English Gazetteer. Containing nearly 2,200 pages in fine but clear and legible type, it is a monument of the industry and acquirements of its accomplished editors. Much of the vast store of information it contains, indeed, was derived or verified from their personal observation in various parts of the world; Dr. THOMAS, for example, having visited India and the Himalayas for the purpose of obtaining greater geographical and etymological accuracy than was to be had by the consultation of any existing authorities, and the notes of his tour, which just preceded the great Indian rebellion, will still be remembered by our readers, as published at that time in the columns of the COUNTRY GENTLEMAN.

☞ Of all nations on earth, there is perhaps none so fond of occasionally "seeing the elephant," as ours—of all the children of men, perhaps none who pay the price so cheerfully—are humbugged, or not, as the case may be, so good naturedly—and forget so soon the fever into which they were hurried by the "sight," in some new epidemic of still later introduction. Thus we received and feasted the distinguished Embassadors from Japan, and paid the bills, and made them presents which will enable them to fight us sharply if there should ever come about a suspension of amity between the two nations; and having thus worked ourselves into quite a frenzy of hospitality over the mum Orientals, sent them home to report as they might on the condition of civilization existing among us western barbarians. We noted, at the time, that Mr. D. M. DEWEY of Rochester, had sent to them as they were on the point of departure, samples of his colored Prints of Fruits and Flowers, and we are reminded of this fact, and, indeed, of the very existence of the "Japs," as they were popularly termed, by the receipt of a note from Mr. D., stating that an acknowledgment of his gift has just arrived, duly couched in the politest of Japanese, and drawn up in the most enigmatical of characters—accompanied, however, by a translation bearing the sign-manual of the inevitable "TOMMY," doing the thanks of the Embassy for Mr. D.'s attention, into respectable English.

☞ The Gardeners' Chronicle contains an interesting account of "a magnificent flagstaff of the DOUGLASS PINE" just erected in the Arboretum at Kew. It was a present from British Columbia, and was cut from a tree supposed to be "not much less than 200 years" old, the total height of which was 220 feet. The length of the staff itself as

finally erected is 159 feet; diameter at butt, 19 inches, at top 7 inches; total weight of the stick, 4 tons, 8 cwt. 28 pounds. "It contained about 150 annual layers, which were close and well defined by broad brown resinous rings." The raising of such a stick to a perpendicular position, and securing of it there, was a good deal of an undertaking, but was finally accomplished without accident—"now wavering about in the wind during pauses in hoisting, then trembling like a willow wand as its tapering top slowly approached the zenith, until it finally came to its rest as straight as an arrow, and so perfectly erect that a plumb line dropped from the truck cut the centre of the butt." A previous attempt to erect a staff presented by the same gentleman, only 118 feet in length, had failed, the stick breaking loose while suspended in mid-air in the process of raising, and falling to the ground, breaking from its own weight into six separate pieces. This gentleman, Mr. Stamp, is an importer of timber and spars for naval purposes, for which the forests of British Columbia afford immense resources.

☞ We have received several numbers of "The Scottish Farmer and Horticulturist," a new weekly journal, published at Edinburgh. Its page is about as nearly as possible the exact size of our own, and in the several departments into which it is divided, we trace a marked resemblance to the system adopted in the arrangement of the Co. GENT. Its subscription price, like those of other British weeklies, is about $5 per year, and the proprietors can accordingly afford to give 32 pages in each number, instead of 16 as we do. If the numbers already received are a fair sample of what it is to be hereafter, it will prove an important addition to the ranks of the Agricultural press. No paper that comes to us from abroad treats a greater variety of rural topics; while many of the articles are quite elaborate, as well as of an immediately practical character, which latter as a general thing does not mark the contents of our foreign exchanges in so great a degree as to render them of very much real value to a farmer in this country.

INJURIOUS EFFECTS OF LARGE APPLICATIONS OF SALT TO THE SOIL.—In the course of a discussion at a meeting of the Highland and Ag. Society of Scotland, some were of the opinion that salt, at the rate of two to three hundred weight to the acre, was efficacious as a remedy for the turnip-fly; while others were as decidedly of opinion that it did not prevent the attacks of this pest.

With regard to salt in the large doses recommended by some—6 cwt. per acre—one member said he had tried it on a crop of mangolds, which it completely killed, so completely that he plowed it down and sowed it to turnips, and it killed the turnips also. Another stated that a similar dose had killed his cabbage.

GRAPES WINTER KILLED.—The injury or destruction of hardy grapevines by the past winter, has been extensive in the Northern States. A letter from C. W. Seelye of Rochester, N. Y., in the last number of the Horticulturist, states that nearly all his Isabellas are killed to within two feet of the ground. The Diana has suffered to nearly the same extent; and the Hartford Prolific and Rebecca as much as the Diana. The Delaware, on the same trellis, has not suffered in the least. "The wood," he states, "is perfect to the very tip, and every bud opening." This extreme hardiness of the Delaware, has been proved on other occasions, and is a curious fact for those to digest who insist that it is an exotic or of exotic parentage.

GEOLOGICAL SURVEY OF MAINE.—We are pleased to see that Dr. HOLMES, so long time the editor of the *Maine Farmer*, has been associated with Prof. HITCHCOCK of Amherst College, in the Agricultural and Geological Survey of Maine.

CLOVER SEED SOWN IN THE FALL.—Hon. J. Edgcomb of Indiana, states in a letter to the Journal of the New-York Ag. Society, that for two years past he has sowed clover seed in Septemper, at the time he sowed wheat, sowing plaster on the wheat the following spring to aid the growth of clover, and it has succeeded well. In regard to the effect of plaster, he adds, "I sowed plaster on my clover pasture last spring, leaving several strips of land across the field unsowed, and am sanguine there was double the amount of clover obtained by its use."

AGRICULTURAL SOCIETIES.

☞ We note that the Trustees of the "Massachusetts School of Agriculture," originally incorporated in 1856, lately met at Boston and effected a re-organization, to which was transferred the amount of subscriptions obtained under the former organization—about $10,000, it is stated—with the apparent understanding that Springfield should be the locality chosen for the establishment of the institution. The following gentlemen constitute the new Board:

President—MARSHALL P. WILDER, Boston.
Treasurer—H. Alexander, Jr., Springfield.
Corresponding Secretary—Prof. W. S. Clark, Amherst.
Recording Secretary—E. W. Bond, Springfield.
Trustees—George W. Lyman, Richard S. Fay, C. C. Whittemore and Samuel Hooper, Boston; Chester W. Chapin, Horatio N. Case, John L. King and James Thompson, Springfield; Aaron Bagg, West Springfield; H. H. Peters, Southboro; and Asa French, Braintree.

☞ At a meeting of the Stockholders of the Owen County, Ky., Union Agricultural Society, held at New Liberty, April 3d, 1861, the following gentlemen were elected officers for the ensuing year:

President—Col. W. G. SIMPSON.
Vice President—Thos. H. Ritchey.
Treasurer—S. B. Brown.
Secretary—J. P. Orr, Jr.
Directors—S. P. Tucker of Grant; Wm. Payne and H. C. Castleman of Gallatin; Robt. Ellis and John S. Gullun of Carrol; W. W. Wright of Henry; James Gayle, R. H. Gale, R. S. Beck, W. H. Garnett, and J. W West of Owen.

☞ At a meeting, May 8, of the Agricultural Association of Oxford and other towns, Chenango Co., N. Y., it was resolved to hold the next Fair of this Association at Oxford, the 23d, 24th and 25th days of September next. The Chenango Co. Agricultural Society have fixed upon Norwich as the place, and the 10th, 11th and 12th days of September as the time for holding their next Fair.

☞ The next Fair of the Delaware Co. Ag. Society is to be held at the village of Hobart, the 18th, 19th and 20th days of Septemper.

☞ The State Agricultural Society of Oregon has fixed upon Oregon City as the point at which to hold their first Annual Fair, in October next.

If you want a Tile Machine that with 2 men and 2 horses you can make 1000 Tile per hour, address F. M. Mattice, Buffalo, N. Y., or J. W. Penfield, Willoughby, O.
Also the best Ditching Plow extant. June 20—w&m1t.*

BERKSHIRE PIGS FOR SALE.—Of fine quality, and true Berk marks, and suitable for breeding. For sale by EDWARD WAIT, Walden, Orange Co., N. Y.
June 20—w&m1t.

FIRST PREMIUM
AWARDED BY THE
N. Y. STATE AGRICULTURAL SOCIETY,
At Elmira, October, 1860,
TO HARDER'S HORSE POWER.
THE subscribers Manufacture, at Cobleskill, N. Y.,
ENDLESS CHAIN HORSE POWERS,
COMBINED THRESHERS AND CLEANERS,
THRESHERS AND SEPARATORS.
These Powers operate with greater ease to the team than others, running with very low elevation, and slow travel of the horses. The Combined Thresher and Cleaner runs very easy, is capacious, separates the grain cleanly from the straw, and cleans as well as a regular fanning mill. In short, THESE MACHINES HAVE NO EQUAL, of which fact we are confident we can satisfy all who will consult their own interest by addressing R. & M. HARDER.
July 1—m3t. Cobleskill, Schoharie Co., N. Y.

A Book for Every Farm-House.
COUNTRY LIFE—A Handbook of Agriculture, Horticulture, and Landscape Gardening. By R. M. Copeland. Beautifully Illustrated. Price, common edition, $2—Fine, $3. For sale by L. TUCKER & SON, Co. Gent. office, Albany.

Agricultural Books for Sale at this Office.

RARE CHANCE.

The undersigned now offers for sale his

SPLENDID SUBURBAN RESIDENCE & FRUIT FARM,

LOCATED NEAR

Hudson, Columbia Co., N. Y.

This farm, containing 20 acres, together with the buildings, is situated on an eminence commanding a very extensive view of the city, river and surrounding country. Within three-quarters of a mile of all the landings, railroad depots, and business parts of the city,—the grounds are all tastefully laid out and decorated with a great variety of flowering plants, trees, shrubs, vines, and varieties of evergreens, deciduous trees, screens, hedges, &c., &c. The farm is in a high state of cultivation by thorough draining, trenching and manuring. The buildings are all new, handsome, thoroughly built, convenient and ample. The garden and orchard is extensive, containing all the best varieties of apples, pears, cherries, plums, peaches, grapes, and quinces. Also Raspberries, blackberries, strawberries, currants, gooseberries, &c. Nearly 1,000 dwarf pear trees set in soil trenched two feet in depth, and trained pyramidically, are now bearing. The location is eminently adapted to the cultivation of the grape, as a large collection of the best varieties, producing splendid fruit, will testify. The farm is well adapted (as was designed) for raising fruit for the New-York market, and the fine specimens sent to market and on exhibition prove the truth of the assertion. Improvements too numerous to mention in an advertisement, together with the locality, render it one of the cheapest and most desirable places to be found on the Hudson between New-York and Albany. Price $10,000. Terms of payment made easy.

REFERENCES.—John Stanton Gould, Josiah W. Fairfield, Charles P. Waldron, Charles F. King, Captain Steamer Oregon, Hudson, or of the subscriber on the premises. SOLOMON V. GIFFORD.

June 6—w13tm3t.

STEEL PLOWS.

We are now manufacturing a superior **Steel Plow,** intended for general use. Some of the advantages it possesses over the cast iron plow, are lightness of draught, durability, and freedom from clogging or sticking in heavy, clayey sticky or tenacious soils. The parts most exposed to wear are so constructed that they may be readily repaired by any blacksmith.

We would refer to the following persons who have them in use:

John Johnston, Geneva, N. Y.; Wm. Summer, Pomaria, S. C.; R. C. Ellis, Lyons, N. Y.; Col. A. J. Summer, Long Swamp, Florida; A. J. Bowman, Utica, N. Y.; A. Bradley, Mankato, Minnesota; A. L. Fish, Litchfield, N. Y.; Volney Owen, Union, Ill.; John Slighter, French Creek, N. Y.

"Mohawk Valley Clipper," No. 1, full trimmed, all steel,.. $15.00
do. do. with cast point,..... 14.00
"Empire," No. 1, with cast point, full trimmed,..... 15.00

For Three-Horse Plows,..... $1.50 extra.
For Adjustable Beams, ... 1.00 do.

We also manufacture Sayre & Klink's Patent Tubular Shank

STEEL CULTIVATOR TEETH.

These Teeth are intended to supersede the old style of wedge teeth and teeth with cast iron heads. They are not liable to become LOOSE in the frame, like the FORMER, nor to BREAK, like the LATTER. They are as readily attached to the frame as any form of tooth.

SAYRES' PATENT HORSE HOE.

This implement is considered to be superior to any other for cultivating Corn, Cotton, Tobacco, Potatoes, Hops, Broom Corn, Nurseries, and all crops planted in rows or drills.

Steel Shovel Blades and Cultivator Points made, and all kinds of Swaging and Plow work done to order.

☞ SEND FOR A CIRCULAR. ☜

REMINGTONS, MARKHAM & CO.,
E. REMINGTON & SONS, } Ilion, Herkimer Co., N. Y.
BENJAMIN P. MARKHAM, }
GEO. TUCKERMAN, }
March 21—w&mtf.

LANDSCAPE GARDENING AND RURAL ARCHITECTURE—Landscape, Agricultural and Civil Engineering, Surveying, Leveling and Draughting.

GEO. E. WOODWARD,

Architect, Civil Engineer & Draughtsman,

No. 29 BROADWAY, NEW-YORK.

Country Seats, Parks, Rural Cemeteries, and public and private roads, laid out and superintended. Plans, Elevations and Working Drawings for Buildings in all departments of Rural Architecture, prepared and mailed to any section of the country. Consultations gratuitous, personally or by letter, March 21—w&mtf.

JERSEY BULL, DEVON BULL AND CHESTER COUNTY PIGS.

For sale, a full blood JERSEY BULL of Henshaw's herd, a very superior animal. The thorough-bred bull "THANE OF DEVON," (Hurlburt's stock,) out of Lady Smith, (1364,) by Taurus. Also several litters of CHESTER PIGS, of Thos. Wood's choice stock, at reduced prices. Address D. CUTTS NYE, Lexington, Mass.

May 30—w2tm1t.*

IMPROVED SHORT-HORNS.—

The subscriber offers for sale, at moderate prices,

BULLS, COWS AND CALVES,

of excellent quality and good pedigrees. They can be seen at Ellerslie Farm, one mile south of Rhinebeck Station, Hudson River Railroad. May 23—w&mtf. WILLIAM KELLY, Rhinebeck, N. Y.

BEMENT'S AMERICAN POULTERER'S COMPANION, price $1.25—Browne's American Poultry-Yard, price $1—Miner's Domestic Poultry-Book, price 75 cents. For sale at the office of this paper.

THOS. WOOD continues to ship to any part of the Union, his celebrated PREMIUM CHESTER CO. WHITE HOGS, in pairs not akin, at reasonable terms. Address,

Jan. 10—w&mly. PENNINGTONVILLE, Chester Co., Pa.

SHORT—HORNS.

I offer for sale two Duke of Oxford BULL CALVES, one of them got by the "Duke of Gloster," (1382,) the other by imported "Grand Duke of Oxford," (16184.)

Also several well bred Bull and Heifer Calves by the same sire.

I have also a few

JERSEY OR ALDERNEY

Cows and Heifers for sale. JAMES O. SHELDON,
Jan. 24—w&mtf. White Spring Farm, Geneva, N. Y.

COE'S SUPERPHOSPHATE OF LIME.—

The subscriber has the above article genuine, and is prepared to furnish it in bags of 125 pounds, or by the ton from one to ten. Terms made known on application.

☞ Circulars sent ratis. WM. THORBURN, Seedsman,
April 25—w&mtf. 490 & 492 Broadway, Albany.

BEARDSLEY'S HAY ELEVATOR OR Horse Power Fork,

Can be used by one or two horses.

Price, including three pulleys and 60 feet of rope, $12.

Liberal discount to dealers.

Rights for sale.

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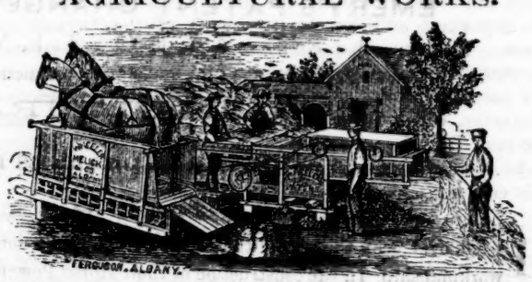

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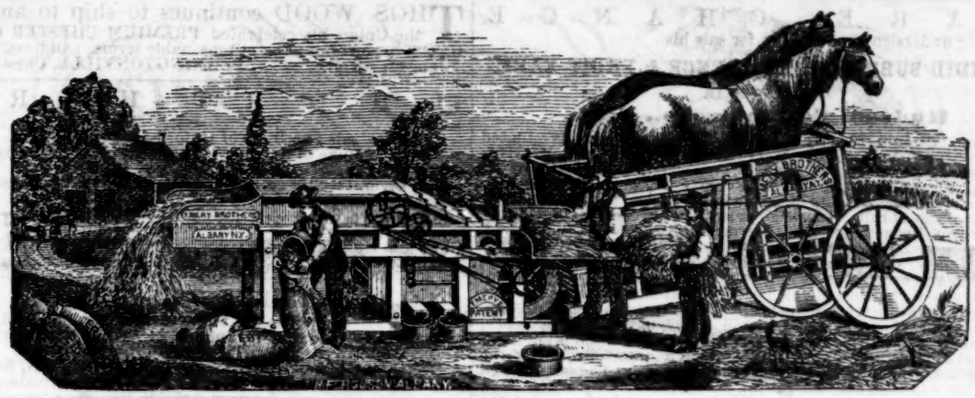

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WAREHOUSE AND SEED STORE,

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For Grinding all kinds of Grain for Feeding, as well as corn in the ear when desired. Several sizes, and with or without Sieves and Bolts attached.

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For Power and Hand use, with and without Press attached. These Mills and Presses are of a superior style and utility to any others in use.

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Cotton Gins with Improved feeding hoppers, with 30 to 100 Saws, calculated for one to eight horses. These are superior in finish and adaptation to the wants of the Cotton Grower, to anything of the kind before offered to the public.

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THE ILLINOIS CENTRAL RAILROAD CO., HAVE FOR SALE

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In Tracts of Forty Acres and upward on Long Credit and at Low Prices.

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which, as they will perceive, will enable them, by proper energy, perseverance and industry, to provide comfortable homes for themselves and families, with, comparatively speaking, very little capital.

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No State in the Valley of the Mississippi offers so great an inducement to the settler as the State of Illinois, There is no portion of the world where all the conditions of climate and soil so admirably combine to produce those two great staples, CORN and WHEAT, as the Prairies of Illinois.

EASTERN AND SOUTHERN MARKETS.

These lands are contiguous to a railroad 700 miles in length, which connects with other roads and navigable lakes and rivers, thus affording an unbroken communication with the Eastern and Southern markets.

RAILROAD SYSTEM OF ILLINOIS.

Over $100,000,000 of private capital have been expended on the railroad system of Illinois. Inasmuch as part of the income from several of these works, with a valuable public fund in lands, go to diminish the State expenses; the TAXES ARE LIGHT, and must consequently every day decrease.

THE STATE DEBT.

The State debt is only $10,106,398 14, *and within the last three years has been reduced* $2,959,746 80, *and we may reasonably expect that in ten years it will become extinct.*

PRESENT POPULATION.

The State is rapidly filling up with population; 868,025 persons having been added since 1850, making the present population 1,723,663, a ratio of 102 per cent. in ten years.

AGRICULTURAL PRODUCTS.

The Agricultural Products of Illinois are greater than those of any other State. The products sent out during the past year exceeded 1,500,000 tons. The wheat crop of 1860 approaches 35,000,000 bushels, while the corn crop yields not less than 140,000,000 bushels.

FERTILITY OF THE SOIL.

Nowhere can the industrious farmer secure such immediate results for his labor as upon these prairie soils, they being composed of a deep rich loam, the fertility of which is unsurpassed by any on the globe.

TO ACTUAL CULTIVATORS.

Since 1854 *the Company have sold* 1,300,000 *acres. They sell only to actual cultivators, and every contract contains an agreement to cultivate. The road has been constructed through these lands at an expense of* $30,000,000. *In* 1850 *the population of forty-nine counties, through which it passes, was only* 335,598 *since which* 479,293 *have been added; making the whole population* 814,891, *a gain of* 143 *per cent.*

EVIDENCES OF PROSPERITY.

As an evidence of the thrift of the people, it may be stated that 600,000 tons of freight, including 8,600,000 bushels of grain, and 250,000 barrels of flour were forwarded over the line last year.

PRICES AND TERMS OF PAYMENT.

The prices of these lands vary from $6 to $25 per acre, according to location, quality, &c. First class farming lands sell for about $10 to $12 per acre; and the relative expense of subduing prairie land as compared with wood land is in the ratio of 1 to 10 in favor of the former. The terms of sale for the bulk of these lands will be

ONE YEAR'S INTEREST IN ADVANCE,

at six per cent per annum, and six interest notes at six per cent., payable respectively in one, two, three, four, five and six years from date of sale; and four notes for principal, payable in four, five, six and seven years from date of sale; the contract stipulating that one-tenth of the tract purchased shall be fenced and cultivated, each and every year, for five years from date of sale, so that at the end of five years one-half shall be fenced and under cultivation.

TWENTY PER CENT. WILL BE DEDUCTED

from the valuation for cash, except the same should be at six dollars per acre, when the cash price will be five dollars

Pamphlets descriptive of the lands, soil, climate, productions, prices, and terms of payment, can be had on application to

J. W. FOSTER, Land Commissioner,
CHICAGO, ILLINOIS.

For the name of the Towns, Villages and Cities situated upon the Illinois Central Railroad, see pages 188, 189 and 190 Appleton's Railway Guide.